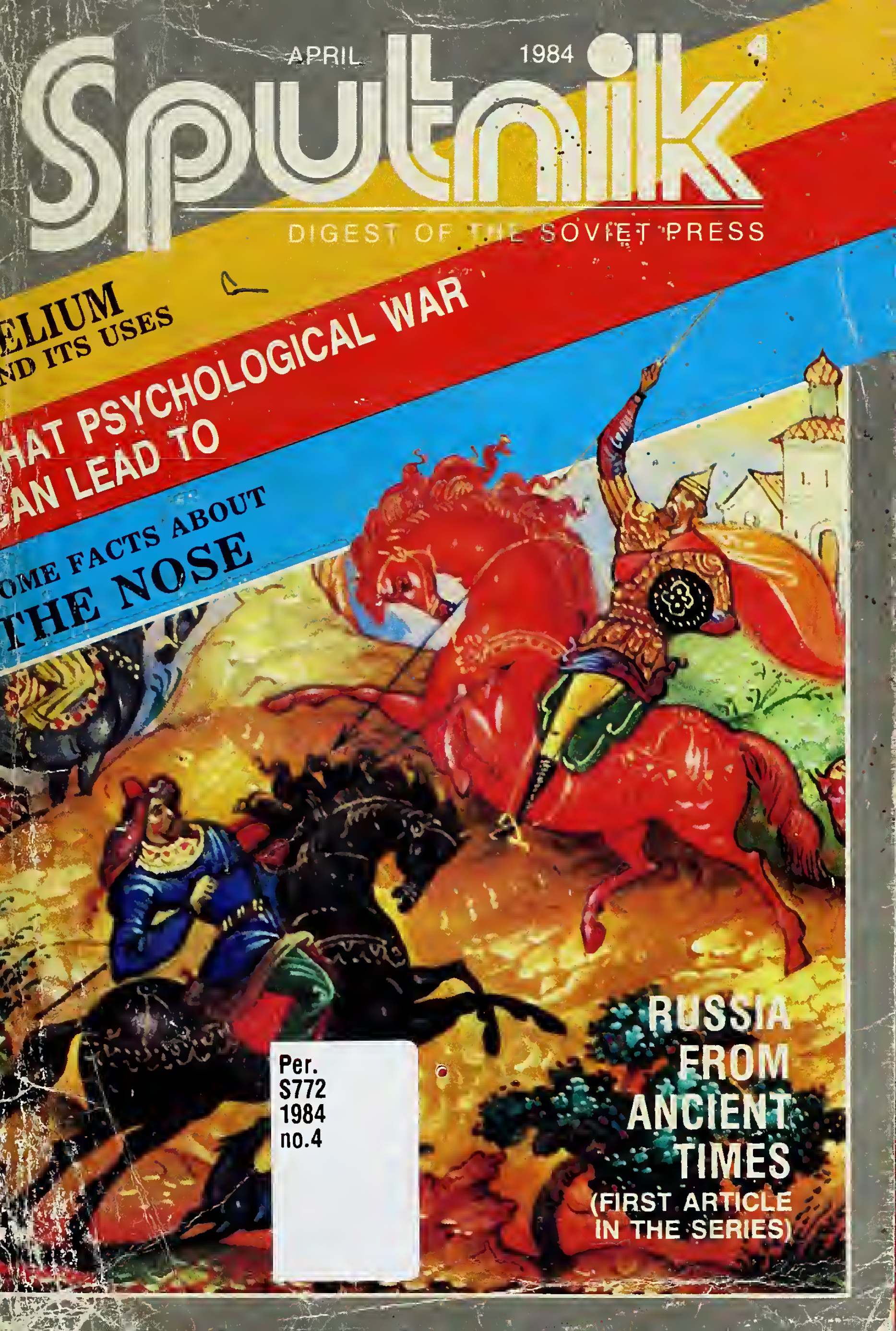

APRIL 1984
Sputnik
DIGEST OF THE SOVIET PRESS
ELIUM
ND ITS USES
HAT PSYCHOLOGICAL WAR
AN LEAD TO
OME FACTS ABOUT
THE NOSE
RUSSIA FROM ANCIENT TIMES
(FIRST ARTICLE IN THE SERIES)





CITIES OF THE SOVIET UNION



1. Tashkent is the capital of which Soviet Union republic?
2. What is the population of Tashkent?
3. When was the first Tashkent International Film Festival held?

(See p. 7 for contest rules.)

INTRODUCING TASHKENT

Tashkent recently entered its third millennium. At the same time, it is one of the youngest cities in the USSR. Its rebirth took place after the major earthquake in 1966. A memorial has been erected at its epicentre – the mighty figure of a man sheltering a woman and child. The whole country took part in the rebuilding of Tashkent. National folk motifs of many Union republics can be seen on the facades of buildings and new streets have been named in honour of Moscow, Leningrad, Kiev . . . Today the city housing stock is double what it was before the earthquake. The architecture of the new city combines the latest achievements of the construction industry with national traditions. In summer, when the temperature soars to over 30 degrees Celsius, innumerable canals, artificial lakes, fountains and an abundance of greenery create a pleasant microclimate.

Tashkent is an important cultural centre. Various international congresses and symposia are held here regularly. A film festival in which cinema workers from over 100 countries in Asia, Africa and Latin America take part has become a firm tradition. Tashkent is always delighted to play host to visitors.

And in the present, extremely tense international situation we clearly declare: the Soviet Union will carry on the policy of peace – of ensuring a stable and just peace for all nations, big or small.

We also reaffirm our readiness to enter into negotiations, but they must be honest negotiations based on the principle of parity and equal security. Threats cannot intimidate us. Our defence capacity is strong, and we shall be able to uphold everything that has been won by the labour of the Soviet people.

To the peoples of the socialist countries we today can say again that the development of our cooperation on the basis of the tested principles of proletarian internationalism remains our invariable guide.

The Soviet Union expresses solidarity with the peoples of the newly-free countries in their struggle for independence and social and economic progress, against imperialist encroachments on their freedom and genuinely democratic development.

From the speech
by K. U. CHERNENKO
at Y. V. ANDROPOV's funeral
in Red Square, Moscow,
on February 14, 1984.



Konstantin Ustinovich
CHERNENKO

Konstantin Ustinovich CHERNENKO

A Short Biography

Konstantin Ustinovich Chernenko was born on September 24, 1911, in the village of Bolshaya Tes in Novoselovo District in Krasnoyarsk Territory. He is Russian.

Konstantin Chernenko joined the CPSU in 1931. He has a higher education – he graduated from a teachers' training college and the Higher School of Party Organizers under the Central Committee of the Communist (Bolshevik) Party of the Soviet Union.

Konstantin Chernenko began his working life at an early age as a farm labourer for kulaks (wealthy peasants). His entire subsequent activity was linked with directing work at Komsomol and then Party bodies. In 1929 and 1930 Konstantin Chernenko was in charge of the agitation and propaganda department of the Novoselovo District Komsomol Committee in Krasnoyarsk Territory. In 1930 he volunteered for the Red Army. Until 1933 he served with the border guards and was secretary of a Party cell at a border post.

After completing his army service, Konstantin Chernenko worked in Krasnoyarsk Territory as head of the agitation and propaganda department of the Novoselovo and Uyar District Party Committees, as director of the Krasnoyarsk Territory House of Party Education, as deputy head of the agitation and propaganda department and as Secretary of the Krasnoyarsk Territory Party Committee.

From 1943 Konstantin Chernenko studied at the Higher School of Party Organizers under the Central Committee of the Communist (Bolshevik) Party of the Soviet Union. On completing his studies in 1945 he worked as Secretary of the Penza Regional Party Committee. In 1948 he was sent to the Moldavian Soviet Socialist Republic and given the post of head of the agitation and propaganda department of the Central Committee of the Communist Party of Moldavia. In this post he devoted much of his strength and knowledge to economic and cultural construction in the Republic and to the communist education of the working people.

In 1956 Konstantin Chernenko was promoted to the apparatus of the CPSU Central Committee where he headed a sector at the propaganda department and was simultaneously appointed

member of the editorial board of the journal *Agitator*. He was head of the Secretariat of the Presidium of the USSR Supreme Soviet from 1960. In 1965 Konstantin Chernenko was appointed head of the general department of the CPSU Central Committee. From 1966 to 1971 he was an alternate member of the CPSU Central Committee. At the 24th Party Congress (March 1971) he was elected member of the CPSU Central Committee, and in March 1976, at the plenary meeting of the CPSU Central Committee held after the 25th Party Congress, he was elected Secretary of the CPSU Central Committee.

In 1977 he became an alternate member of the Political Bureau, and in 1978 a member of the Political Bureau of the CPSU Central Committee. He was a Deputy to the USSR Supreme Soviet of the 7th to the 10th convocations and Deputy to the Supreme Soviet of the Russian Federation of the 10th convocation.

Konstantin Chernenko was a member of the Soviet delegation at the International Conference on Security and Cooperation in Europe (Helsinki, 1975) and he took part in the Vienna talks on disarmament issues (1979).

Konstantin Chernenko is a prominent leader of the Communist Party and the Soviet state. In all the posts which the Party entrusted to him he displayed a talent for organizing and devotion to Party principles, the great cause of Lenin and the ideals of Communism. Konstantin Chernenko is the author of a number of scholarly works on topical questions of enhancing the Party's guiding role in the life of Soviet society, improving the style and methods of Party and state work and developing socialist democracy.

At the June 1983 plenary meeting of the CPSU Central Committee Konstantin Chernenko delivered a report which outlined the main directions in which the CPSU's ideological activities are to be improved in present-day conditions.

For great services to his homeland Konstantin Chernenko was twice awarded the title of Hero of Socialist Labour and decorated with three Orders of Lenin, three Orders of the Red Banner of Labour and many medals of the Soviet Union. He is a Lenin Prize winner.

Konstantin Chernenko also holds the highest awards of the socialist countries.

On February 13, 1984, K. U. Chernenko was elected General Secretary of the Central Committee of the Communist Party of the Soviet Union at an extraordinary plenary meeting of the Central Committee.

Sent to the Printers February 15, 1984.

Contents







OUR DIGEST OF
THE SOVIET PRESS
AND LITERATURE
IS INTENDED TO INFORM
THE READER
ABOUT LIFE IN THE USSR
THROUGH THE USE
OF THE VARIETY
OF MATERIAL CARRIED
IN THE SOVIET CENTRAL
AND LOCAL PRESS.
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Soviet domestic and foreign policies,
the life of the Soviet peoples,
what is thought, said
and argued about
in our country –
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GOOD LUCK!



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FRONT COVER: FOR THE RUSSIAN LAND (fragment of a painting by Mstyora artist V. MOSHKOVICH

Photo by Alexander BOZHKO
Composition by Pavel DENISOV

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Sulo Yuntunen.
"Spring in Karelia." 1976

APN photo



1984

Seasons of the year
in Russian and
Soviet paintings.

APRIL

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Soviet Construction Projects in 1984

Photos by Anatoli KHRUPOV, Mai NACHINKIN, Vikenti TUZHIN & APN

The Soviet people's efforts to fulfil the state plan of their country's economic and social development for 1984, which was endorsed by the USSR Supreme Soviet in December 1983, are in their fourth month. Following are a few of the most important statistics which illustrate the climb in living standards as recorded in the plan.

Provisions have been made for a rise in the national income, which goes into consumption and accumulation, to the tune of 15 billion roubles,* or 3.1 per cent. Incidentally, the entire increase is ploughed into the improvement of living standards. The per capita real incomes will grow by 3.5 per cent as against two per cent in 1983 and the 3.1 per cent initially envisaged in the five-year plan for 1984. The social consumption funds will reach 139.5 billion roubles – a 3.7 per cent increase over 1983.

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* According to the present exchange rate, one rouble equals approximately US $1.30. – *Ed.*

Another pertinent indicator is housing projects. In the four years of the current five-year plan period, more than 432 million square metres of housing space will have been made available – an excess of 9.3 million square metres over the planned provisions. This means that almost 40 million people will have their housing conditions improved.

Our country had registered a rise in economic growth rates, some improvement in qualitative indicators and a general positive shift in the national economy.

Isn't this adequate reason for an optimistic view of the future?

In a speech at an extraordinary plenary meeting of the Central Committee of the Communist Party of the Soviet Union (February 1984) the General Secretary of the CC CPSU K. U. Chernenko noted that it was important to retain the newly developed pace of work and the general attunement to endeavour and efficiency.

Every Soviet citizen now feels that this is his number one priority.

It is not an easy task. Everyone understands that the 1984 plan was difficult both to frame and to balance.

BAM will pass through mountain ranges, impenetrable swamps and turbulent rivers. Some of its sections are operating already.
Workers from all parts of the country have come to build it.





The scale of the Soviet economy is gigantic and each per cent of increase means enormous and ever expanding industrial output, which has been slat-



ed for a 3.8 per cent increase this year. However, a still more spectacular increase will be registered by the output of consumer goods (four



per cent) and agricultural produce (6.4 per cent).

To reach these targets will require major efforts and resources and, above all, mounting labour productivity, which is expected to account for 97 per cent of the aggregate rise in the national income, 90 per cent of the increase in industrial output and in the volume of building and assembly operations and 100 per cent of the total increase in agricultural products and the railway transport turnover.

The Neryungri coalface is Yakutia's biggest.

The young town of Tynda in the Soviet Far East is growing rapidly.

In addition, Soviet capital construction maintains an extremely rapid pace. This is illustrated by the sketch-map of the USSR accompanying the text, which highlights only the crucial construction projects of 1984: it would be next to impossible to show all of them. Throughout the country – from its western to its eastern borders and from the freezing Arctic to the sunny south – projects of the power, metallurgical, engineering, food, light and other industries are going up.

It is easy to see that most of the conventional designations mark projects of the fuel-energy complex – the core of the economy. Generating units with a total capacity of 13.5 million kilowatts will be added to new and functioning power stations. Particularly rapid construction rates are being recorded by atomic power projects. Before the year is out the first generating units of the Balakovo, Zaporozhye, South-Ukrainian and Kalinin atomic power projects and the second sections of the Smolensk and Kola ones will become operational. New Units of the Kolyma, Cheboksary and other hydropower projects will come into service, including two turbines of 640,000 kilowatts each in the Sayan-Shushenskoye hydroelectric power station.

Many readers may remember how the export-oriented gas pipeline Urengoi-Pomary-Uzhgorod, now in operation, was constructed within a short time and despite all obstacles. The pace of construction of other Soviet gas trunk lines, many of which, including Urengoi-Centre, will go into operation this year, is equally intense.

Mention should also be made of the high density of large construction projects in Siberia, Soviet Central Asia and the Soviet Far East, whose economic development continues at a particularly rapid rate. These include the coalfaces Neryungri in Yakutia, Azeisky in the Irkutsk Region and Pavlovsky No 2 in the Maritime Territory as well as the Ekibastuz and Khabarovsk thermal electric power stations.

However, the central event of 1984 will no doubt be the opening of through traffic all along the length of the 3,400-kilometre Baikal-Amur Mainline Railway (BAM). This will give a powerful new spur to the development of the wealth of Siberia and the Soviet Far East and the formation of new territorial-industrial complexes there.

Moreover, this year over 360 kilometres' length of railway lines and upwards of 12,000 kilometres length of general-purpose motor roads will be added to the country's networks.

All told, almost 200 new industrial enterprises will launch operations while the fixed assets of the national economy will increase by more than six per cent in 1984.

DÉTENTE SHOULD NOT DIE



Excerpts from a speech by Andrei GROMYKO, USSR Minister of Foreign Affairs, at the Stockholm Conference on Confidence- and Security-building Measures and Disarmament in Europe.

The Soviet Union has come to the conference with good intentions. We will be upholding here a position of peace among states and peoples and trying to ensure that the conference will make a substantial contribution to putting interstate relations on a sound basis, and will help to end the insane arms race. We are in favour of an atmosphere of trust in relations between countries. This is necessary for the settlement of conflicts, for the development of mutually useful ties and contacts. The Soviet stand in Stockholm consists in having the Helsinki Final Act elaborated in practice through important new agreements.

At this forum, we are frankly setting forth our ideas on this score. Above all, the issue at stake is that of preventing nuclear war. The voices of millions upon millions of people are resounding ever more resolutely throughout the world and they are demand-

ing that reliable measures be adopted to eliminate the nuclear threat to mankind. If we seriously wish to establish the necessary trust in relations between nations, the approach to eliminating this threat should also be serious.

How much stronger the trust would be if the nuclear states adopted a pledge not to be the first to use nuclear weapons. This would seem to be a simple measure that is easy to implement. No second strike will come without a first one. Would it not bring about a real political turn in the cause of strengthening trust, and not only between nuclear powers?

The Soviet Union has already assumed on a unilateral basis the commitment not to be the first to use nuclear weapons. We reaffirm this from the rostrum of the Stockholm conference as well. The other nuclear powers taking part in the conference have not as yet assumed such a pledge. The question is: can one place trust in their policy under such conditions?

We proceed from the premise that all states, be they nuclear or non-nuclear, are equally interested in the adoption of such a pledge and its unconditional observance. No arguments, however refined, against its adoption can be accepted as convincing if one adheres to the positions of peace.

There is one more very important confidence-building measure, namely, the mutual obligations of states not to be the first to use either nuclear or conventional weapons against one another, or, in other words, not to use force. Our position on this matter is also clear. In January 1983, along with the other Warsaw Treaty member-countries, we put forward a proposal for a treaty on the mutual non-use of military force and maintenance of relations of peace. Under the present circumstances this proposal is becoming increasingly relevant.

It would be only natural if such obligations were assumed by state irrespective of whether they belong to military alliances, are neutral or non-aligned. This is fully consistent with the letter and spirit of the Helsinki Final Act and is provided for in the mandate of the Stockholm conference, which clearly points to the need "to give effect and expression to the duty of states to refrain from the threat or use of force in their relations." This will not prejudice the status of neutral or non-aligned states. They will align themselves with one thing only – with peace.

We have expressed here our considerations regarding two major confidence-building measures. While the implementation of just one of those measures would signify a tremendous

move forward, we are proposing that both of them be implemented. If the conference could agree on these moves, this would, undoubtedly, constitute the greatest accomplishment of this forum.

Other initiatives of the Soviet Union and the countries of the socialist community also offer a good many opportunities for creating an atmosphere of confidence and greater security. We would like to believe that all states represented here will make their contribution to the work of the Stockholm conference.

For example, it would be worthwhile tackling the problem of reducing military spending. Agreement to this end would also constitute a major contribution to building confidence and would at the same time be a real means of curbing the arms race.

The task of overcoming mistrust between states would be undoubtedly facilitated by the removal from Europe of such barbaric weapons of mass annihilation as chemical ones, and above all, by the non-deployment of such weapons in places where they have not by now been based. The urgency of this task is emphasized by the fact that inhuman plans in the field of chemical weapons are gaining currency, although attempts are being made to camouflage this.

A number of European states favour the establishment of nuclear-free zones in various parts of Europe. This issue is directly linked with the lessening of the war menace, with the consolidation of confidence.

Here, in the capital of a Scandinavian country, it would be appropriate to recall that the Soviet Union backs the proposal to declare Northern Europe a zone free from nuclear weapons. The establishment of this zone, in our opinion, is both desirable and possible.

We duly appreciate the confidence-building measures which have already been implemented in accordance with the Helsinki Final Act. They have proved their usefulness. At the 26th Congress of the Communist Party of the Soviet Union, in several joint documents of the Warsaw Treaty countries we came out in favour of their further expansion, naturally, with due account taken of the current situation. The USSR will adhere to this line in the future as well. We are prepared to work out additional measures, more substantial in nature and more far-reaching, to strengthen trust in the military sphere.

For example, the question of prior notification of major military manoeuvres could be further developed. Agreement to limit the scale of such manoeuvres to a

certain numerical strength of the forces engaged would also be quite timely.

The question of major military movements and redeployment of troops also deserves the most serious attention. It is worth recalling that the Helsinki Final Act states that "further consideration will be given to the question of prior notification of major military movements".

In our view, the interests of peace and security would also be served by prior notification of major air and naval exercises which take place in the sea and ocean areas adjoining Europe and in the airspace over it.

On the whole, the Soviet Union is prepared to support such confidence- and security-building measures that will indeed contribute to a real lessening of military confrontation.

All the participants in the Conference should be equally interested in its success. Everything must be done on a just and objective basis. Any attempts at the Conference to advance deliberately unacceptable demands and, rather than search for ways to build confidence, to look for a crack in the fence to spy on one's neighbours, could only impede its productive work.

The Soviet Union is firmly committed to the mandate agreed upon at Madrid, which stipulates unambiguously that any decisions concerning confidence- and security-building measures should be taken "on the basis of equality of rights, balance and reciprocity, and equal respect for the security interests of all participating states".

The peoples of Europe expect the Conference in Stockholm to take decisions which would be instrumental in changing the course of events for the better. What we wish to see is that the agreements, once they are reached, are not shelved but implemented.

The next follow-up meeting after Madrid, to be held in Vienna in 1986, has among other tasks that of assessing the progress achieved during the first stage of the Conference. That meeting will only stand to gain if confidence- and security-building measures to be agreed upon in Stockholm start being implemented and become a fact of life rather than remain draft documents.

The achievement of positive results at the Stockholm conference would strengthen the conviction that détente in Europe has a considerable reserve of vitality. There are forces which are known to be eager to administer the last rites to détente. But the peoples treasure the fruits borne by détente during the 1970s. It cannot be allowed to die for it expresses the people's quest for peace and life.

PRAVDA, January 19, 1984

Only recently the sci-fic plots of "stellar wars" raised condescending smiles. Today the nightmare of space war actually looms over mankind.

THE USSR IS FOR PEACEFUL SPACE

from the book DISARMAMENT: WHO IS OPPOSED?
Moscow. The Military Publishing House
of the USSR Ministry of Defence

Since the dawn of the space era the Soviet Union has consistently proceeded from the assumption that space and peace are indivisible and that space must serve progress, being used constructively rather than destructively.

In its memorandums on disarmament issued on March 18 and April 30, 1957 and later, on March 15, 1958, the Soviet Union outlined a practical programme that would rule out space militarization. It proposed settling the question by a strict consideration of the security of the sides and on the basis of the inadmissibility of either side gaining military advantages.

However, due to the resistance of the United States this Soviet initiative remained unrealized. Subsequently, the Soviet Union took new constructive steps designed to limit the military use of space. On some questions a constructive stand was also taken by the United States. The joint efforts of the Soviet Union, the

United States and other countries resulted in international agreements which limited the military use of space.

However, the agreements now in effect do not fully limit the space arms race. Among other things, the possibility of the deployment in space of types of weaponry which do not come under the heading of "weapons of mass destruction" still remains open.

This is what led the Soviet Union to propose concluding an agreement on banning the deployment of weapons of any type in space. A draft of an agreement submitted to the United Nations in August 1981 provides for a commitment not to orbit around the earth objects that carry weapons of any type, not to instal such weapons on celestial bodies and not to deploy them in space in any other way. However, the formulation of the text of the agreement in the Disarmament Committee, where the problem is being considered, has still not begun due to the obstructionist stand of the United States.

Of course, many Americans realize the hazards of the space arms race. Evidence of this is the appeal to President Reagan to establish a mutual US-Soviet moratorium on the tests of anti-satellite weapons in space, signed by more than 100 congressmen and many eminent US scientists in July 1983. However, official Washington pursues other aims. The US Administration sees space as an "absolute position" gaining dominance of which would open the way to attain the cherished aim of world supremacy.

The materialization of the idea began with the development of a manoeuvrable space vehicle, the *Saint* interceptor, more than 20 years ago. Two anti-satellite ground systems were created in the 1960s: on the Nike-Zeus anti-missile basis in 1963 and with the use of various modifications of the Thor missile in 1964. At present the development of the anti-satellite aviation complex ASAT on the basis of the F-15 fighter plane is nearing completion. There are plans to form two squadrons of F-15 planes equipped with interceptor missiles fitted with heat-seeking heads.

A programme of multiple-use Shuttle spaceships is being put to military purposes. A directive of President Reagan on national space policy says that priority in launching these craft will be

granted to military flights. With the aid of such craft it is planned to launch military satellites, the Pentagon's orbital command posts and new types of space weapons. A space centre is being rapidly constructed at the Vandenberg Airforce base, from where military Shuttle spaceships will be orbited.

Intensive development of beamed energy (laser, accelerator) weapons is underway. Their key job will be to destroy space, air, ground and sea targets. Elements of such weapons are to be tested and used in combination with shuttle space flights. In May and June 1983 the US Airforce tested laser weapons. Over a testing ground in the state of California a laser unit installed aboard a C-135 plane hit the on-board guidance systems of five Sidewinder air-to-air missiles.

The US President has resolved to develop anti-missile complexes of a new generation deployable both on earth and in space. The implementation of the decision will disrupt the Treaty on the Limitation of Anti-Ballistic Missile Systems, which bans the creation of space-based anti-missile defence systems. This will exercise an extremely adverse influence on world stability, touching off a large-scale space arms race.

The key target of President Reagan's anti-missile decision is to enable his country to deliver an unpunished first strike at the Soviet Union. "In these conditions," said Yuri Andropov, "the intention of obtaining the possibility of destroying by anti-missile defence the corresponding strategic facilities of the other side, in other words, of robbing it of the ability to make a retaliatory strike, is calculated at disarming the Soviet Union in the face of the US nuclear threat." In this lies the meaning of Reagan's "defensive" concept.

Alongside the expansion of space programmes, the United States is hard at work to perfect the structure of its military space bodies. A space command has been set up as part of its Airforce and plans have been developed for the formation of a joint (for all arms of the service) space command.

Such are the facts. They show that the pace-setter of the cosmic arms race is the United States, which bends over backwards to obstruct measures that would block space militarization. Despite a 1981 UN decision to

open negotiations designed to coordinate the text of an appropriate agreement, the United States to this day has been disrupting practical steps to this end. Its efforts aimed at spreading the arms race to outer space threaten all mankind. In this situation the task of preventing the extension of weapons to space is gaining increasing acuteness, becoming the mainline of the struggle of all peace-loving countries and peoples for the preservation of world peace.

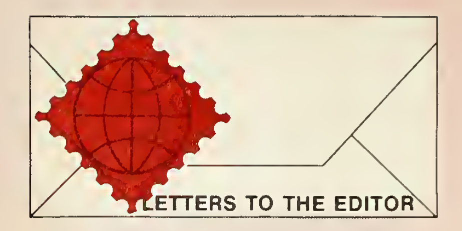
There is no time to waste and therefore the Soviet Union proposed taking a further step straightaway by reaching agreement on banning the use of force in general both in space and from space against earth and in August 1983 submitted to the United Nations a draft of a treaty. If concluded, it would make countries secure against hostile action with the use of space equipment as a weapon of destruction, and space objects secure against the use of force.

In addition, the Soviet proposal provides for a complete ban on the testing and deployment in space of any cosmic-based weapons for striking objects on earth, in the air and in outer space. Our country has announced that it is prepared to effect a radical solution of the problem of anti-satellite weapons by reaching agreement of renouncing the testing of all anti-satellite systems, on banning the creation of new ones and on the elimination of the anti-satellite systems already available to the sides as well as on banning the testing and military, including anti-satellite, use of piloted spaceships.

Simultaneously, the Soviet government adopted an extremely important decision following which the Soviet Union committed itself to refrain from being the first to launch into space any type of anti-satellite weapon. This amounts to a unilateral Soviet moratorium on such launchings for as long as all other countries, including the United States, refrain from putting into space anti-satellite weapons of any type.

* * *

Events of recent months have again confirmed that the United States, ignoring Soviet peace initiatives, continues to regard the militarization of space as a means of attaining world supremacy. In other words, the Pentagon continues its dangerous games in defiance of common sense. Isn't it time it stopped?



MORE ON PAT LEMMENS' LETTER

In the Sept/83 issue, on p. 15, SPUTNIK ran a letter from Pat Lemmens in which she asserted that capitalism has improved mankind's situation. Many readers have responded to our request for commentaries on the letter.

G. S. KUDIS, USA: *In my opinion, mankind developed under capitalism as well, but the motive force of this development was profits, vainglory, superiority of some over others, and to a very small degree – the urge to create. Moreover, capitalism abets the terrible plundering of natural resources and destroys people's initiative. The hostile relationship between the employer and the worker does not serve development and progress. Furthermore, inexperienced people are frequently appointed to responsible posts because they have the support of one or the other political party.*

Nelson Lorenzo RUBI, Cuba: *Capitalism, just as feudalism in its time, has played a progressive role. But neither of these systems could create the conditions needed to solve many human problems. Only under socialism, when people enjoy the same rights and there is no exploitation of man by man, can the main questions, connected with the life of society, be solved.*

Shiroyoshi IIDA, Japan: *Disarmament is man's sole hope of surviving. I believe that capitalism is the main obstacle to it. It is precisely in capitalist countries that the military-industrial complex flourishes.*

BY SOVIET LICENCES

You call yourself a country with a high level of development of science and technology. Is this so?

João da SILVA FONSECA,
São Paulo, Brazil

Judge for yourself. More than 50 large blast furnaces in the FRG, Italy, Hungary, Britain, the GDR, Japan are equipped with Soviet cooling systems. Soviet installations for the continuous pouring of aluminium in a magnetic field operate at enterprises of the American companies ALCOA, Kaiser Aluminium, Reynolds Metals, the Japanese Mitsubishi, the Swiss Alusuisse, and the French Pechiney. West German, Spanish, American, French and Swiss companies have acquired licences for the manufacture of efficient Soviet preparations that combat malignant tumours and cardio-vascular ailments. The West German Kassel company has a Soviet licence for the manufacture of pyradizol which removes a state of depression.

The Soviet technology of producing ethyl alcohol out of wood, the licence for which was bought by the Brazilian company Coalbra will find application in Latin America.

The foregoing are only a few examples of the utilization of Soviet equipment and technology in foreign countries. The Soviet export association Litsenzintorg, which represents the interests of Soviet industrial and scientific organizations, maintains commercial ties with over 2,000 firms and organizations in 35 countries.

The Editors

'And the rain was upon the earth forty days and forty nights . . . And the waters prevailed exceedingly upon the earth; and all the high hills, that were under the whole heaven, were covered . . . And all flesh died that moved upon the earth . . .'

That is how Old Testament of the Bible, the sacred book of both Christians and Judaeans, describes the Flood – the terrible catastrophe which befell the earth.

DID – AND WILL – THE FLOOD TAKE PLACE?

by Alexander KONDRATOV

condensed from the magazine PRIRODA I CHELOVEK

In the mid-19th century a sensational discovery was made. The Biblical version of the Flood was found to be merely a recounting of an older legend that arose in Mesopotamia (the valleys of the Tigris and Euphrates, now part of Iraq) long before the Bible was written. In the same century folklorists and ethnographers discovered in the myths of other peoples a story about a catastrophic invasion of the entire inhabited world by waters. The people of Easter Island in Oceania, for instance, believe that their former homeland was a "mainland" which was engulfed by the ocean during the Flood. This world deluge is described in Japanese, Burmese and Chinese legends and tales. A story about the Flood is to be found in Indian mythology. The *Popol-Vuh* (The

Book of the Peoples), which has been called the Bible of Central America, also mentions a terrible disaster in which "the sky sent down pitch and tar, and the earth plunged into darkness, and violent rains fell day and night, and horror-stricken people rushed hither and thither but did not find salvation anywhere."

WHAT CAN BRING ON FLOODS?

Many of the causes – a rapid thawing of the snow cover, prolonged heavy rains, hurricane-force winds, tsunamis, storm-lashed waves, earth- and seaquakes, crustal and volcanic eruptions – have been studied in great detail. However, scientists rightly assume that all these calamities bear a local character and for this reason cannot bring about the "end of the world." Above all, the water reserves in the atmosphere are not great. Even if all the "windows of heaven" were to burst open simultaneously, the land would be covered by only a thin layer of water.

Many troubles result from earthquakes. Their devastating potential on the surface is measured in points and the energy they release underground in magnitudes. Earthquakes whose magnitude is above nine simply cannot take place on our planet. Otherwise the epicentre would sink more than 100 kilometres, where matter is already in a near-molten state. The Chilean earthquake of 1960 had a magnitude close to the limit – 8.5. The Pacific then swallowed up 10,000 square kilometres of the coastal strip. Nevertheless, the catastrophe fell short of reaching global proportions.

Mankind has also experienced many volcanic eruptions which entailed terrible consequences. Suffice it to recall the destruction of Pompeii, the explosion of Krakatoa in the Sunda Strait, the eruption of Santorin in the Aegean Sea. However, none of these desasters could lead to the end of all mankind due to their local character.

Perhaps the factor behind the floods is to be found neither on nor in earth, but in outer space? In the billions of years which have passed since it came into being our planet must have collided with comets and asteroids. Obviously within the microscopic (compared to the entire history of the earth) period of existence of Homo sapiens and, still more, civilization, the probability of a memory being preserved of a cosmic catastrophe is practically nil. Witnesses of such a disaster

would scarcely have survived: it would have killed all the inhabitants of our planet except perhaps the denizens of the ocean deeps.

Why then, should stories about the Flood, which allegedly destroyed all mankind, be so persistently found in the mythology of many peoples? Of course, ancient texts and legends are attributable to the fact that long ago human horizons were fairly narrow. To an islander "the entire world" was confined to his native island or a group of neighbouring islands, to an inhabitant of a valley it did not go beyond its environs, to a mountain dweller it was limited to the surrounding ranges. A local catastrophe made man think that the entire world was collapsing. He did not know about the existence of the rest of the world.

Thus, the origin of the stories about the Flood appears to have been deduced. However, let us not jump to conclusions.

FLUCTUATIONS IN THE LEVEL OF THE WORLD OCEAN

We all know that the earth's climate is subject to change. From time to time the ice-sheets advance and then ice spreads over Europe and North America as well as Africa, India and Australia. Then it begins to melt and the World Ocean, as it receives additional quantities of water, encroaches on land.

How many times has the climate on earth changed? What is the periodicity of ice ages? Scientific observations of the climate and fluctuations in the level of the World Ocean began only recently while the earth is aeons old. Naturally, a great deal is therefore problematic. According to the overwhelming majority of climatologists and oceanographers, 25,000 years ago enormous expanses of our planet were covered by mighty glaciers, like those which now form the caps of Greenland and the Antarctic, and that the water which went into their formation substantially reduced the level of the World Ocean. In those days the continents must have been linked by land bridges. Proof of this is the world distribution of plants and animals. These bridges were also used by primitive people as they migrated to the New World, Australia, Tasmania, and the islands of the Indonesian archipelago. Later, the bridges sank, engulfed by the World Ocean, whose level slowly rose at the rate of a metre a century. Presumably, this took place 17 to 20 thousand years ago. Since then

the slow melting of the ice has brought the World Ocean to its present watermark.

Research in the past few years, however, has brought surprise findings which have lead to a revision of the traditional view of the Flood. The latest interglacial warming was found to have reached peak intensity when it displayed a rapid, spasmodic pattern. Possibly, such a peak was the Flandrian warming, which took place very recently – about 6,000 years ago. Its traces were first detected in the Belgian province of Flanders. Subsequently, they were spotted on the coast of Australia, north of the Black Sea, on the shores of the Mediterranean. The thawing of glacier masses was accompanied by earthquakes, tsunamis and other calamities. Then the earth could have fallen victim not to an ordinary "slow" flood, which lasted thousands of years, but to a rapid one. Perhaps it was the Flandrian thawing that came to be known as the Flood?

Some five to six thousand years ago the earth already had a far from primitive population. The Nile Valley and Mesopotamia were the homes of ancient civilizations which had calendars and writing. The catastrophic onslaught of waters (possibly, the World Ocean then rose by six metres compared to its present level) simply had to survive in ancestral memory. What man experienced at the time has come down to us in the form of myths, legends and tales. Incidentally, many legends of the Australian aborigines describe the origin of several gulfs and straits, which, according to geological findings, were formed precisely 6,000 years ago.

Science cannot yet explain why warming should exhibit such abrupt peaks. One of many hypotheses attributes this to an increase in solar radiation, which, apart from the well-known 11-year cycle, must have longer ones, which may last a thousand years.

IS THERE A THREAT OF ANOTHER FLOOD?

If mankind has already lived through such a catastrophe once (and the earth apparently more than once) the question of whether it will be re-enacted in the future is, naturally, an alarming one. After all, cases of sea encroachment can be observed in our day as well. The following examples illustrate the behaviour of waters in the past 25 years.

1960. One of the most destructive earthquakes ever registered by instruments took place off the Chilean coast. It gave rise to giant

tsunami waves which took a toll of thousands of lives.

1962. A 12-point storm smashed the dams on the Elbe and Weser, reversed their flow and, together with the waters of the North Sea, flooded Hamburg, Bremen and other cities in the Federal Republic of Germany, penetrating hundreds of kilometres into the country's interior.

1970. A hurricane wind which reached a velocity of 200 kilometres an hour drove from the Bay of Bengal into the Ganges a 10-metre-high wave, which rammed the banks, destroying everything in its path.

1972. Hurricane Agnes, racing through the United States, flooded Washington D.C., inflicting damage estimated at three billion dollars.

1974. The great Australian flood touched off by a monsoon, inundated large territories, bringing devastation and disaster.

1980. Heavy summer rains led to an unprecedented rise in the water level in the European part of the Soviet Union. The rivers of Byelorussia, the Ukraine and Moldavia burst their banks, flooding dozens of square kilometres in low-lying areas.

1983. Streams of water, squalls and seven-metre waves battered California, leaving almost the whole of the state at the mercy of the rampaging elements. Torrential rains which continued unabated for several days triggered off floods in Louisiana, Mississippi and Alabama, changing city streets into turbulent rivers and destroying bridges and dams and submerging 100,000 homes.

In our time climatic change has been increasingly affected by man's economic activity. According to all indications, what has come to be known as technogenic heating of the atmosphere is underway. It is thought that in the past 50 years the amount of carbon dioxide in the atmosphere has risen by 15 per cent and, creating a greenhouse effect, is already influencing the earth's climatic balance. This view is supported by some specific data. For example, a group of scientists from different countries that has been conducting observations in Antarctica since 1973 has recently published a paper which indicates that in many areas the edge of the ice field has approached the continental land mass by 140 nautical miles. In brief, the ice-covered ocean surface has been shrinking dramatically – a phenomenon which experts say is directly related to the greenhouse effect. An alarming question arises: has the level of the World Ocean begun to rise?

This year UNESCO is marking the 100th birth anniversary of the Soviet painter Isaac Brodsky.

HE PAINTED LENIN

by Galina GRIGORIEVA

condensed from the magazine TVORCHESTVO

Photos by Pavel RAYAK, Valentin BARANOVSKY & APN

Back in the late twenties the prominent Soviet writer Maxim Gorky once said to Isaac Brodsky: "What I value and appreciate most in your work is your clarity." At that time these words meant a lot. The theory and practice of formalism was being rejected by most artists and the realistic trend was gaining ground in Soviet art.

The parents wished their son to become either a scientist, or a businessman, or a lawyer. But all the boy wanted to do from morning till night was to draw. In the end, they put him in a carriage, one of those that trundled over the provincial dirt roads at the close of the last century, and brought him to town to learn painting. And so, Isaac Brodsky, aged 11, became a student of an art school in the southern seaside city of Odessa.

At 18 he graduated with honours and was admitted to the St. Petersburg Academy of Art without entrance examinations. He became a pupil of the great master Ilya Repin, and worked in his studio.

Isaac Brodsky's graduation works *A Warm Day* and *Portrait oj Wife* received high marks and won him a trip to Europe. He travelled in Germany and Italy,

Brodsky's drawing autographed by Lenin.



lived in Paris. He familiarized himself with the great masterpieces in European museums and worked hard. His paintings were displayed in the Paris Salon and at the World Exhibition in Rome. He won a gold medal at an art exhibition in Munich.

Isaac Brodsky returned to Russia in 1918. At that time Russia was in the flames of the Civil War and there was not a single thinking artist who did not ask himself a crucial question: which side am I on? Isaac Brodsky chose the path of the revolution mapped out by the Bolsheviks led by Lenin.

In 1919 a contest for the best painting, drawing and sculpture on the theme *The Great Russian Revolution* was held in Petrograd (now Leningrad). Brodsky decided to enter it. Not long before, at a meeting, he had seen Vladimir Lenin for the first time and made a drawing of him which later became the basis for his canvas *Lenin and Demonstration*. That was the first oil-painting of the leader of the Russian revolution.

A year later, at the opening of the Second Congress of the Comintern,* Brodsky again made several drawings of Lenin. He showed one of them to Lenin and asked him to autograph it. Lenin didn't think it was a good likeness. But people surrounding him disagreed and sought to convince him that he simply did not know his own face in profile. Lenin smiled then and said it was the first time he was signing something with which he did not agree. But then, having looked at the picture again, he commented: "Perhaps, there is a likeness, after all."

The great force of Lenin's personality, his powerful intellect and amazing ingenuousness attracted the artist. Brodsky's pictures of the leader have much in common with the depiction of Lenin by John Reed in his famous book *Ten Days That Shook the World:* "Unimpressive, to be the idol of the mob, loved and revered, as perhaps few leaders in history have been. A strange popular leader – a leader purely by virtue of intellect . . . without picturesque idiosyncrasies." Brodsky's *Lenin in Smolny*, one of the best works of art devoted to Lenin, was such a success that

* Communist International, an international revolutionary organization of the proletariat (1919-1943). – *Ed.*

"Lenin speaking at a meeting of the Putilov Factory workers in May 1917." Detail.





the artist had to make several copies of it.

Another of Brodsky's series of oil paintings devoted to Lenin is *Lenin in Gorki*, 1924. He captured on canvas the genial cordiality



and simplicity of the great man. Already fatally ill, Lenin is resting against the back of a garden

"Lenin in Smolny."



"Lenin in Gorki."

bench. His face is illuminated by a gentle smile, wise and a little sad.

Those years saw the revival of portrait painting in Russia. Brodsky was inspired by the idea of creating a "monument to the great proletarian revolution" in painting. He accomplished his goal and called his painting *The Opening Ceremony of the Second Congress of the Comintern.* It was a titanic work: some six hundred faces are portrayed on the canvas.

The classic of Soviet literature Alexei Tolstoy wrote: "Soviet literary prose and, to a great degree, drama as well have derived from the themes of the Civil War." He had every reason to say this: his novel *Ordeal,* Sholokhov's novel *And Quiet Flows the Don,* Vishnevsky's play *The Optimistic Tragedy* and dozens of other works confirm his words. His words can be applied to Soviet painting as well. Artists of the '20s and '30s recreated in their works the historic events they had witnessed themselves and that were still fresh in their memory. In those years Isaac Brodsky worked on yet another painting on the theme of the revolution. This oil was a story of the fortitude and execution of 26 commissars from Baku. The 26 commissars, leaders of the revolutionary movement in Transcaucasia, were arrested during a counter-revolutionary revolt, treacherously driven to the Caspian Sea shore and shot by order of the commanders of the British interventionist forces in September 1918.

Brodsky went to Baku, studied documents and photographs and talked to many eyewitnesses. He carried on his research much like a historian, until all details of the event became clear to him.

Perhaps Brodsky's works stood out as strikingly realistic among paintings of the early 20th century. The artist may even have been pronounced old-fashioned by some rash critics. But today we appreciate the details he depicted so painstakingly on his canvases. For the reality he painted was so significant, that even its minute details have become invaluable to art.

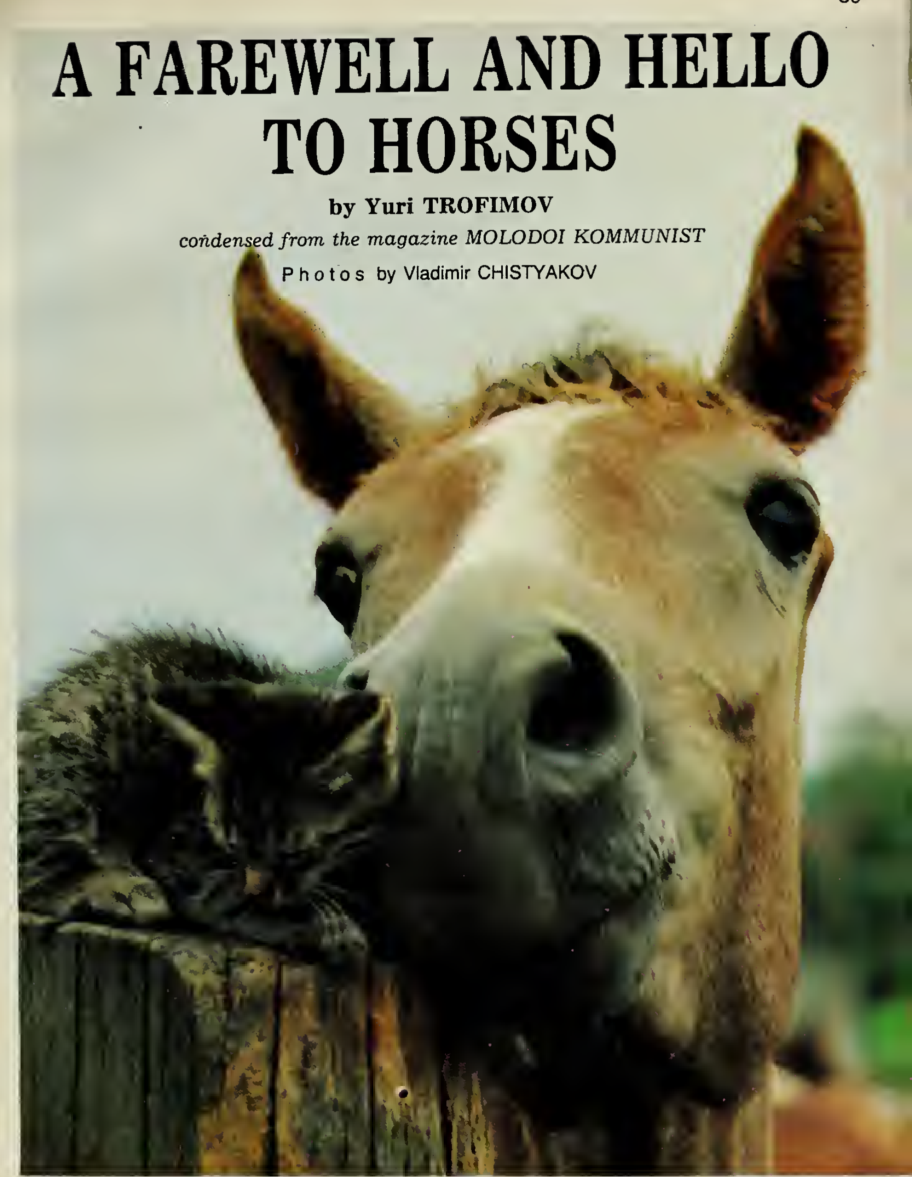
In the 40-odd years of his indefatigable activity Brodsky (died in 1939) created innumerable portraits of revolutionary leaders, heroes, writers, scientists. He was also a master of landscape painting with elements of genre painting – a rare style in Russia. And they are executed in the same utterly clear and lucid idiom he used in his monumental paintings.

A FAREWELL AND HELLO TO HORSES

by Yuri TROFIMOV

condensed from the magazine MOLODOI KOMMUNIST

Photos by Vladimir CHISTYAKOV



For several of the coldest days in the winter of 1978, Mikhman Girei, a pure bred Akhalte-kin stallion, lived in the study of Vera Kovalevskaya, a historian and great connoisseur of horses.

That year the temperatures in Moscow and its environs plummeted to under 40 below and the fierce cold set in suddenly. Although Mikhman's stable was adjacent to his owner's log house, it was too cold for the horse.

All thoroughbred horses (including Arabians and English racehorses) are descended from Mikhman's forebears whose natural habitat was in the oases of Central Asia. In this mild climate the trans-Caspian Turkmen tribes of Akhal and Teke evolved in ancient times a wonderfully handsome, fleet-footed breed of horse of great endurance which was, however, highly susceptible to cold. When out at pasture the Akhaltekin was always covered with several camel hair blankets.

Not wishing to endanger Mikhman's health, Kovalevskaya installed him amid her rare books and antique furniture, right next to her desk. And in all the days that he spent in the study, Mikhman did not brush against or break a single object. Some house cats can do more damage. A horse fully understands human care and affection and responds with gratitude.

ITS NATURE

Among the peoples of Central Asia an equestrian game called *kok-par* has flourished from ancient times to this day. The rules of the game are simple: the carcass of a freshly butchered goat or sheep is thrown in the middle of a field by the referees. With whistles and cries two opposing teams of riders bear down on the carcass. The object of the game is to seize it and bring it back safely to one's own goal. Just as in rugby or American football, the carcass can be grabbed from the opposition by dint of strength, cunning and skilful manoeuvring.

In the clash, passions run high. Blows of a short whip strike one's own and other horses and often the back of a rider. With a fine sense of their rider's intentions, the horses jostle each other with chests and hindquarters, neigh wildly, bare their teeth threateningly. It is not a spectacle for the faint-hearted.

The organizers of a big equestrian show at Moscow's central race track decided to include *kok-par* in the programme for the first time in 1958. The people of Moscow hadn't seen anything like it hitherto. When the two teams clashed in the middle of the field with blood-curdling cries, raising a cloud of dust, the spectators were spellbound.

Then a great gasp went up because one of the participants in the fray, a frail-looking old man,

went down with his horse right on top of the carcass and lay still under the hooves. The living ball of frenzied men and horses rolled over them several times before shifting aside, jostling with renewed energy, tails and whips waving. Some people in the stands even covered their eyes so as not to see what had happened to the old rider.

But, choosing his moment, the old man sprang agilely back into the saddle, clutching the carcass, and in the twinkling of an eye reached his goal behind the backs of his team. The spectators gave a sigh of relief, although it is a fact that even when highly excited, a horse will never consciously tread on a prone person. The very rare exceptions are related to a person's inability or unwillingness to understand a horse's psychology.

In the days when there were still many cavalry units in the Soviet Army, a certain soldier was doing his service with a cavalry regiment. He was brave and assiduous, but bad-tempered by nature. The horse he got was good and intelligent, nevertheless the soldier often beat it without cause and left it for long stretches of time without unsaddling it and giving it water. In this manner the strange man sought to assert his authority. It should be observed that horses distinguish quite clearly between merited and unmerited punishment.

The day finally came when the horse had had enough. When the rider hit it as usual, it shoved him with its chest and easily toppled him to the ground. In a state of shock, the soldier scrambled to his feet and fled from the horse, accompanied by the jeers and laughter of his fellow cavalrymen.

The horse caught up with him and again knocked him over and pushed him into the dust, its hoof on the man's back – a rare case, indeed! But all it did was to hold its tormentor down in a state of submission. It could easily have raised its foot higher and struck him harder. But it didn't.

According to old legends, thousands of years ago the horse came to man of its own free will and concluded an alliance with him based on mutual respect. Legends do not always coincide with scientific facts, but there is no question that the horse exerts an ennobling influence on man.

Not all that long ago, at an old brickworks in the Rostov region in the south of the USSR, there was a work horse named Malchik. Malchik's job was to draw a rail cart loaded with unbaked bricks to one of three kilns. He did this without a driver and in



full awareness of what he was doing. When the workers finished loading the cart, they would say "Ready!" and Malchik would sedately start off, unerringly choosing the kiln where the supply of unbaked bricks was coming to an end.

At night he grazed out in the steppe not far from the brickworks and exactly at 8 a.m. he turned up on the job, stopping next to the cart. Malchik knew the start and end of the dinner break to the minute and observed it punctiliously, but he recognized no other pauses. The workers would even get annoyed – the horse wouldn't let them enjoy an extra cigarette! Malchik couldn't bear drunks and refused to obey them in principle, and he was utterly intolerant of rough treatment. If someone shouted at him in the heat of the moment or, God forbid, hit him, Malchik would stop dead at once, his head stubbornly lowered, and for the rest of that day he refused to work.

It is said that the workers of that brickworks didn't even dare to swear in front of the horse. This may be a legend, but then again, who knows?

This horse is still at home. In the mornings it enjoys cantering in the water reservoir near the horse farm that it has known since foalhood.

ITS FATE

In the prerevolutionary Russian countryside, a peasant's wealth was determined by the number of horses he owned. He was registered as being a one-horse peasant, two-horse, the owner of many horses. The word "horseless" was a synonym of penury. In a famine year a peasant might have eaten goose-foot himself but he would save the last sack of grain for his horse. If his animal could make it through to the spring, it would help him to plough the land and then, hopefully, things would look up.

This was true not only of Russia. At the beginning of the 20th century in the whole world neither transport, nor industry, nor the army could have been imagined without the presence of the horse. Even the mass introduction of tractors and motor vehicles did not at once affect the numbers of the equine population. In 1937 there were over 115 million horses in the world, while some 20 years ago, at the beginning of the 1960s, the figures fell drastically – to just a shade over 64 million in 1962. •

At the beginning of the 1930s

And this horse will soon go on a long journey, no doubt. This American customer has tested its gait for the third time on the eve of the auction.

there were 36 million horses in the USSR. During the war of 1941-1945 many horses were killed in battle, many were slaughtered in the areas temporarily held by the nazis. The most valuable, pedigreed horses were seized by the enemy and taken to the Third Reich.

After the war we faced enormous reconstruction work. There was a shortage of motor vehicles both in urban centres and rural areas. At that grim moment the horse once again came to the aid of man. It dragged loads weighing as much as twice its own weight through places in which trucks became mired in mud.

In those years the government of the USSR took measures to develop horse breeding. By 1953 there were 15 million horses in the country. With a population of 200 million, this figure was considered both necessary and sufficient. In the eight years that had passed since the end of the war, the country had healed many of the ravages of war and machinery had enriched the economy. In such circumstances it was quite natural that the horse should take second place.

However, eight years later events took place that Soviet horse-breeders cannot recall without bitterness to this day.

The point of departure was quite correct: modern agriculture must base its development on modern machinery. But for some reason the people responsible for agricultural development on a countrywide level decided that there was no place for the horse in general. Wouldn't it be wiser, they said, to curtail the expenditures on horse-breeding and transfer the funds made thus available to more promising branches of the economy?

Of the country's 300 stud farms, less than half remained at the beginning of the 1960s, and the horse population dropped to some five million.

ITS WORK

Let's be sensible about it: if a horse is not going to be used for transport (since the car exists), nor for ploughing and sowing, then what is it needed for? Only for horse-races? For overweight people who wish to get into shape? Or in order to preserve a species that has a chance of entering the endangered list?

I put these questions to Ivan Kuznetsov, an eminent veterinarian. For a quarter of a century Kuznetsov was the manager of the Khrenovskoy horse farm in the Voronezh region. he has travelled round the world at-

Above: such horses cost a million dollars and more.
Below: a real rider learns to take care of a horse in childhood.





When you love horses, you don't just retire on pension.

tending shows, races and auctions, and as an expert he has made millions of roubles for the state treasury. Not long ago he handed over his job to a younger colleague while he himself remains on the farm as a consultant.

"Horse-races are needed," said Ivan Kuznetsov, "not so much as an entertainment, but in order to train horses and discover their qualities. The tote is no more than a technical means which helps to operate the track and finance breeding and selection work.

"As for sport, I predict a boom in equestrian sports and tourism in the next decade. With universal mechanization and urbanization, man is experiencing the break with nature ever more acutely. He seeks to mend the rupture and in this he can have no helper more noble and grateful than the horse.

"As for the horse on the farm, supposedly having vanished, according to my observations it is most actively used on farms where the requirements in machinery have been fully satisfied. This stems, in my view, from an ability to count public funds. A horse works more than 200 days a year and the cost of its work day runs to two or three roubles. What tractor costs a farm a mere 500 roubles annually?"

Today state and collective farms are buying good pedigreed horses from horse farms for 15, 20 thousand roubles and upward, so that most of these government-run horse farms are operating at a profit and have no need of subsidies. This is not to speak of international trade. Wealthy buyers from other countries come to horse auctions in the USSR. In 1982 the Americans, for instance, bought Pesnyar, an Arabian stallion (kindred to the Akhaltekin), from the Tersky horse farm in the Northern Caucasus for one million dollars.

There is another thing about the horse which is undeservedly rarely mentioned. It is a blood donor. In sterile premises in factories producing biological preparations, thousands of horses are performing a mission that is vital for mankind: from their blood curative and preventive serums are made against tetanus, gangrene, diphtheria, botulism.

In the summer of 1981 the Council of Ministers of the USSR adopted a special decision in which it is stated that the temporary reduction of the number of horses in several republics should be recognized as unfounded and economically unjustified. The ministries responsible for agriculture must from now on pay serious attention to the improvement of selection work on state horse farms, ensure the development of mass equestrian sports in rural areas and organize the hiring of horses in equestrian tourist centres for city people. It is also suggested that care should be shown for the training of qualified personnel for horse farms.

The main part of this programme is scheduled to be completed by 1985.

* * *

To conclude, I would like to tell a short story that I wrote down from the words of Andrei Prokofiev, who took part in the assault on Berlin.

In the spring of 1945 a Soviet tank unit that was advancing together with the infantry, in Germany ran into a herd of pedigreed horses which at various times the Germans had seized in France, Poland, Belgium and Russia. These were captive horses and the nazis treated them like prisoners-of-war: they were guarded by an SS unit with dogs.

On suddenly seeing Soviet tanks close by, the guards ran. The herd also started running, but then stopped and huddled in a tight cluster. The tank men popped out of the hatches and began to discuss the situation with the infantry men sitting on top of the tanks. All of a sudden, a group of horses separated from the herd and at a nervous trot headed straight for the tanks.

"They heard Russian being spoken," Prokofiev explained. "They trotted up and began sniffing the soldiers' uniforms, crying all the while, as though complaining. Can you believe it – they were weeping real tears, just like people. Later I learned that they had been driven out of Russia back in 1941. Four years is a long time in a horse's life. But they remembered their homeland and yearned for it."

As one noble Frenchman put it, we are responsible for those we have domesticated.



'I LIKED THE U.S. BUT I WOULDN'T WANT TO LIVE THERE'

by Sergei DYUZHEV,
a worker at
the Moscow Automobile Plant

Photos by
Sergei PETRUKHIN & APN

' Americans active in the peace movement invited their Soviet counterparts – Soviet people working for peace – to visit them in the US. One of the invitations was sent to our plant and the

plant branch of the Soviet Peace Committee elected me.

When the 25 of us arrived in America, we were split up among several families. While still on the plane, I became friends with Father Boris, a Russian Orthodox priest who spoke English well, and so I was pleased to learn that the two of us were going to be in the small town of Silvania, near Detroit, and would even be staying with the same family.

Ralph and Ravina Mikeson, both schoolteachers, and their daughters, Judith and Claria, enveloped us with warmth and attention: and their neighbours constantly invited us to visit or dropped by. Our new friends drove us around as much as possible, trying to show us everything we might be interested in, and of course, asked about life in the Soviet Union. I usually had to talk about myself several times a day.

I was born in 1954, in Moscow. My mother was a type-setter at a printers and my father was an electrician. When I finished school I wanted to enrol in an aviation school, but I had had a middle ear infection as a child and my application was turned down on medical grounds. I walked home in that deep despair that only teenagers experience, feeling that it was the end of the world. A friend of the family called to me, obviously realizing that something was wrong, and asked about my troubles. "Why don't you get a job at the plant where I work? See how you like it," she suggested.

So I found a job at the Likhachev Automobile Plant which produces trucks. There I learned what I now consider to be the fascinating job of patternmaker. The size, shape and appearance of a vehicle depends on him. He is the first to make it as the designer conceived it. The only difference is that it is made of wood. The work is interesting because it requires great skill – the room for error is no more than two-tenths of a millimetre off the pattern. Our best workers spent years perfecting their expertise. I don't consider myself one of the best, but I eventually hope to be.

When I told my American friends this story, their usual response was: "But what if you hadn't run into your acquaintance? What would you have done?" The first time I was asked this question I was taken aback, and answered that I would have gone to work somewhere else or perhaps studied in a technical school or institute, since at that time I didn't care what I did if I



The Dyuzhev family is fond of music: after listening to his daughter playing the piano, father gives his own rendition of the piece.

could not be a pilot. It was only later that I understood the reason for the question and answered in more detail. I explained that there are announcements which begin with the words: "Help Wanted – Workers and Specialists" next to the entrance of almost every organization or enterprise in Moscow and that each city district has an employment bureau where a person is offered a choice of several jobs. For that reason, the problem is not finding a job, but of deciding which is the best for you. My listeners were astonished and I was too, but for a different reason – how little they knew about the USSR!

I also talked about how I could have gone to an institute because higher education is free, and





The American schoolteachers Ravina and Ralph Mikeson, whose guest Sergei Dyuzhev was, surrounded him with care and attention.

what's more, students receive a government stipend. My wife, for example, attended two institutes. First she graduated from the Institute of Economics and Statistics and later from the Institute of Physics and Technology. She now works as a programmer.

The more I saw of America, the more I liked it. The upward thrust of big city architecture, the eye-catching store windows, the noisy discotheques, the variety of television programmes and, of course, the cars. And what marvellous highways! People everywhere were friendly, kind and easy to get along with. Even the millionaire whom we visited turned out to be a regular guy.

I want to be sure to mention American service. When Father Boris wanted to buy a briefcase, we aked where the best store was located. We were told that it wasn't necessary to go anywhere. Our hosts got out a catalogue, we chose what we wanted. They called the store, and within 30 minutes our order was delivered. Unfortunately, we don't have that kind of service yet.

Naturally, I was particularly interested in automobile plants. I visited the Ford Plant in Detroit and the Jeep Assembly Plant in Toledo. I wandered through the departments, watched the assembly lines, and in one of the Ford design offices was even allowed to see the new model of the Mustang.

Everywhere I went I was astonished at the strict discipline. Everyone was busy working from one break to the next: no one in the hall smoking and no one chatting idly. The departments were spotlessly clean: I didn't see one tiny screw lying on the floor or a drop of spilled oil. All of this inspired great respect for the Americans. 'Good for them,' I thought. They work at peak efficiency and no one has to urge them on or watch over them. It was a psychological riddle, however. After all we are only human: someone doesn't feel well and isn't working at the same level as he did yesterday or someone else is naturally lazy and does less than his partner. But there, everyone worked almost like machines.

One day the whole story became clear. That was at the Champion Spark Plug Factory. I was in the assembly department. As I had seen wherever I went, work was very well-coordinated and everyone was busy. I noticed that in one corner of the department people were sitting behind glass doing nothing other than watching those on the floor. Their eyes did not leave the others for an instant. Every once in a while they shifted positions, tired of sitting in one place, but their eyes never left the department.

I asked my guide who they were and was told they were fill-ins. At one time they had worked assembling spark plugs at other factories, but for various reasons they had lost their jobs: a plant closed down, production was curtailed, or the work they had done was automated. Now they sat waiting for someone to fall ill and leave, or get called home for some urgent reason. Then they would be able to work a few hours or maybe even a shift.

That night as I lay in bed, I tried to imagine how I would feel if those anxious eyes were constantly trained on me as I worked. Or how I would feel if I were the one sitting behind the glass in the corner of my department. I couldn't picture it, and I couldn't sleep . . . No, I wouldn't want to live in such conditions.

Stenographic transcription by
Nina KRYUKOVA

THE PATH OF PSYCHOLOGICAL WARFARE

condensed from the magazine
INTERNATIONAL AFFAIRS

In its broadcasts beamed to the Soviet Union the Voice of America persistently tries to hammer into its listeners' heads that military units of the German Democratic Republic, Bulgaria, Ethiopia and South Yemen as well as of the Palestine Liberation Organization are actively engaged in Afghanistan.

The American TV company ABC claims that 1,000 military helicopters are being despatched by sea from Vietnam to Nicaragua.

Finally, the US President makes a personal TV appearance in order to tell his shaken compatriots about a Soviet military airfield in the small Republic of Grenada, a stone's throw from their own country's shores.

Nobody has seen any military units of the GDR, Bulgaria, Ethiopia or South Yemen in Afghanistan. Nor have any helicopters been shipped from Vietnam to Nicaragua. As regards the airfield in Grenada, it has now become a military airport, after American invasion. Before, it has been an ordinary civilian project built by British contractors.

However, what is said sticks in the minds of radio listeners and TV viewers, adding another touch to the bleak picture of "global communist expansion".

A noisy campaign was launched some time ago about the question of chemical weapons. The US State Department compiled several reports on the alleged use by the Soviet Union and

Vietnam of chemical weapons in Afghanistan, Kampuchea and Laos (naturally, not a word was said about the chemical warfare gases which the US army had actually used against the Vietnamese).

Many scientists, including American, subsequently demonstrated the complete falsity of these accusations against the Soviet Union and the Socialist Republic of Vietnam. After conducting an investigation, independent experts of the United Nations reached the same conclusion. A representative of the International Red Cross bluntly said that the State Department's concoction was irresponsible nonsense.

Now, did US propagandists withdraw their accusations? Not in the least. Basing themselves on "facts" disproved more than once, the special services continue to put forward provocative conjectures. Meanwhile, the US Congress, referring to these dubious sources, decided that it is necessary to expand the production of *America's own* chemical weapon.

THE HOWL OF WOOD-GOBLINS

Most of the techniques of psychological warfare, like the term itself, are of Nazi origin. The nazis were convinced believers in a "game without rules." Deviously distorted information was a means of supporting military operations which they called "invasion without weapons."

In 1943 government radio stations of the Hitler Reich officially beamed propaganda to 60 countries with a total broadcasting time of 430 hours a day – a figure which seems incredible even today. On top of this Goebbels set up a network of secret radio transmitters (Operation Concordia). The *For Russia* Station, supposedly completely unconnected with the nazis, broadcast in Russian to the frontline areas of the Soviet Union. Britons were indoctrinated by transmitters of the fictitious corporation *New BBC*, which feigned purely British dissent. Radio *L'Humanite*, which posed as the voice of the French Resistance, transmitted to France.

Following the defeat of nazi Germany the theory and practice of psychological warfare became the "war booty" of the Americans. The United States established fundamentally new propaganda units – as a rule, based on the intelligence services. Money was not spared: the Department of Military Informa-

tion – the leading US political propaganda agency – alone hired 13,000 employees.

Under President Truman the Psychological Strategy Department was founded. Eisenhower added to the Administration a special presidential aide for psychological warfare. In 1953 the United States Information Agency (USIA) – the world's largest agency of centralized propaganda – was established. Radio Free Europe first went on the air 33 years ago. Its chairman, Charles Jackson, plainly said that the aim of external broadcasting was to stir up internal disturbances and disorders in the target countries. Obviously, one cannot expect subtlety in the work of militarized psychologists.

In the hot summer of 1953 East Berlin, the capital of the German Democratic Republic, became the scene of "spontaneous disorders" with a fascist colouring – arson, street hooliganism, assaults on government institutions. Hard work by the intelligence services of the US Army in Europe and the radio stations Voice of America, Free Europe and RIAS was put into bringing about the "spontaneity." Using transmitters located in direct proximity to the GDR, American agents openly directed the activity of the thugs and US Airforce planes scattered anti-communist leaflets.

The Berlin Operation fell through: the GDR citizens supported and protected the people's democratic system in their country. Naturally, the Western special services drew some conclusions – but only with regard to details rather than to essence. This is why the Hungarian events of 1956, and the "Prague spring" of 1968, and the acts of sabotage committed by the Polish extremists in the early 1970s and the 1980s reveal the same familiar features of the "Berlin summer" – an outburst of bitterness among the socially amorphous sections of the population and "spontaneous" rebellion prepared by professional instigators and spearheaded against law and order.

During the Vietnam war the US intelligence service opened what might be called a testing ground for psychological warfare in Indochina. On territory which was controlled by the National Liberation Front of South Vietnam US Airforce planes dropped tens of thousands of primitive radio receivers tuned to one wavelength – that of the Voice of America.

According to Ted Sorensen, one

of the directors of the USIA, US special service aircraft made low flights over the guerilla areas, and using loudspeakers, woke up people by broadcasting funeral music at night. Following this, a recorded child's voice implored his guerilla father to come home. At times electronic musical cacophony was switched on in order to frighten women, old men and children who believed in woodgoblins.

HALF-TRUTH, GLARING UNTRUTH AND NOTHING ELSE

The broadcasts of the Voice of America on hundreds of occasions and in many variants highlighted the mythical plan of a "Soviet invasion of Iran." But they never mentioned the 1953 coup in Teheran engineered and supported by the US special services, or the training by US instructors of the Shah's savage secret police SAVAK, or the American air raid on post-Shah Iran and its inglorious conclusion in the Tabas Desert.

A TV programme broadcast to the entire world via the system of US communication satellites made it plain that US President Ronald Reagan wanted Poland to be Poland. It also gave a detailed elucidation as to what trade unions the Poles should have, what leaders should and should not be in power in Poland, what news should be reported by the Polish media (all naturally, from the US point of view). However, not a single programme, so far, has explained whether Reagan wants, for instance, Lebanon to remain Lebanon rather than a territory controlled by Israel, or whether he wants Chile, El Salvador and South Korea to get rid of their red-handed puppet leaders supported by US special services.

It has been calculated that every US television station allots at least 15 minutes daily to rabid anti-Soviet propaganda which verges on indecency. These same stations scarcely produce as much as 90 minutes of factual information about the Soviet Union in a whole year.

The US General Accounting Office responsible for providing regular reports to Congress on the expediency of federal allocations to specific organizations, in 1979 studied the functioning of the radio centre Liberty-Free Europe. The Office had to admit and report to Congress that the broadcasts of these two stations contained too much glaringly

false information which nobody believed in.

David Newsom, a former Undersecretary of State for Political Affairs and now Director of the Diplomacy Institute, Georgetown University, in an article published in *The Christian Science Monitor* frankly complained that despite the combined efforts of all US media, the rest of the world did not believe what they said about the Russians.

Why then should practical Americans plough money into such a dubious scheme? The answer is amazingly simple: the US psychological warfare services do not at all require that their foreign audiences trust their information 100 per cent. The important thing is that they should question the information they are given by domestic sources.

These services have another supertask as well. The headquarters of the same RL-RFE in Munich have for dozens of years been functioning as an analytical centre of the US intelligence service. The sociological service of Radio Liberty regularly compiles reference papers on the Soviet economy and foreign policy, on military questions and problems of religion and even suggests methods of brainwashing Soviet citizens who travel abroad on business or as tourists.

There are research centres of psychological warfare that are more secret. Their subversive activities are not glaring but methodical. These are the centres that concoct and spread across the world poisonous forgeries about a Soviet military threat, violations of human rights in the socialist countries, the Soviet Union's contribution to international terrorism, the infiltration of Cubans into Central America, etc.

It is easy to realize what immense harm to interstate relations is now being done by this "war of words."

The United Nations, UNESCO and other international organizations have drafted many resolutions that, if observed, would put an end to psychological warfare. The United States has always taken a negative stand on these resolutions. J. Thomas, a US apologist of the cold war, has stated that since propaganda is non-violent aggression, it represents an acceptable alternative to direct, violent confrontation. Consequently, it is needed.

However, the boundary between psychological warfare and open war may turn out to be uncertain.

Cartoon by
A. PANASENKO
*From the magazine
KROKODIL*



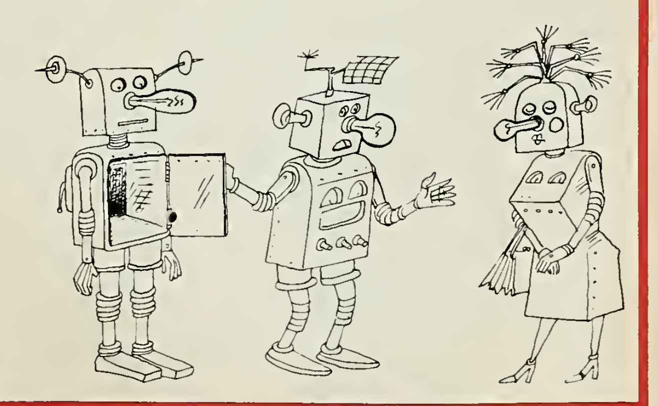
Cartoon by L. GULIN & A. SOIFER
From LITERATURNAYA GAZETA



Cartoon by A. OREKHOVA
From the newspaper
VECHERNY LENINGRAD



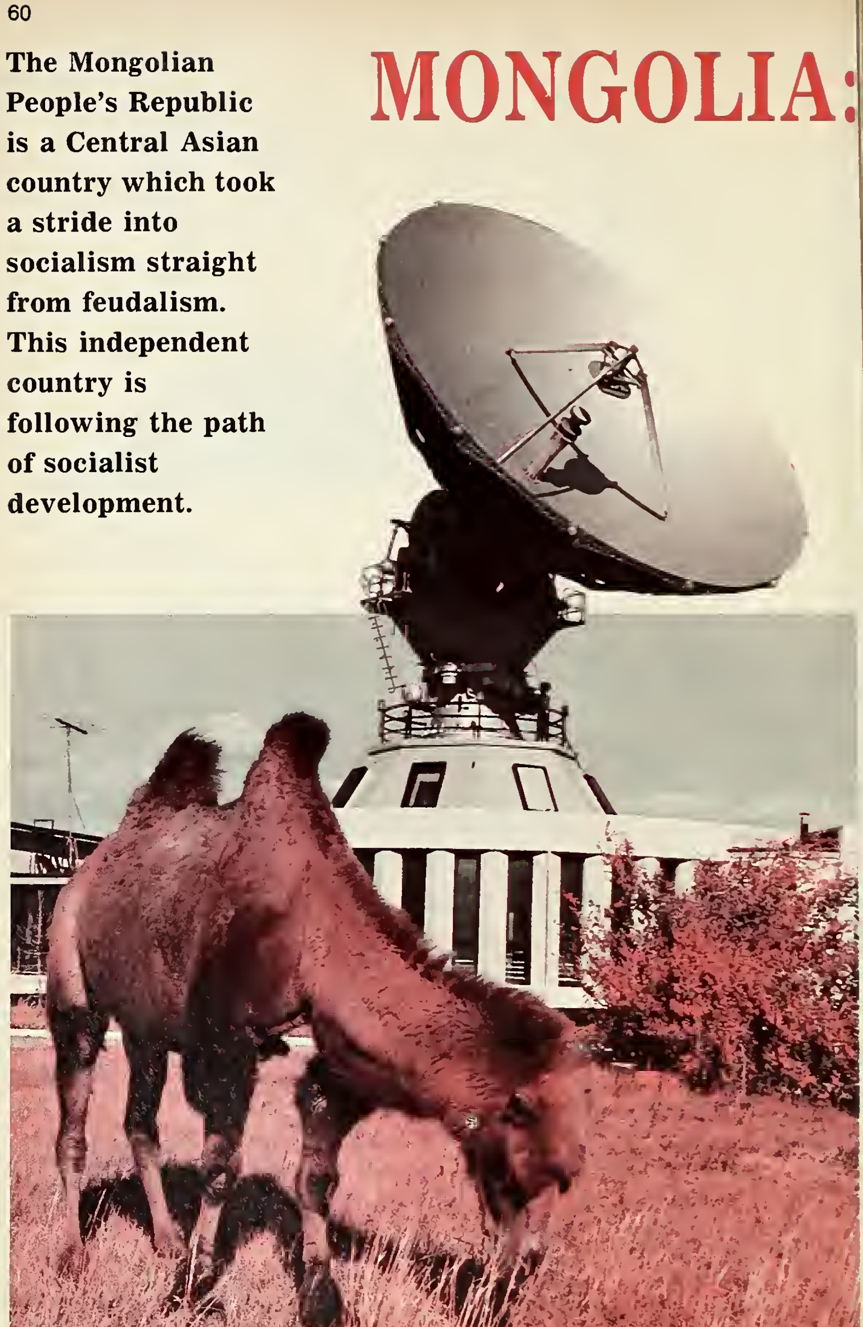
Cartoon by S. VETKIN
From the magazine
CHAYAN



Cartoon by E. MILUTKA
From the magazine
PERETS

MONGOLIA:

The Mongolian People's Republic is a Central Asian country which took a stride into socialism straight from feudalism. This independent country is following the path of socialist development.



A STRIDE INTO SOCIALISM

by Alexei KRIVEL

condensed from the magazine VOKRUG SVETA

Photos by Vladimir KOCHERGIN

Before I came to the Mongolian People's Republic I was friends with a young Mongol. He taught me his language. I was a frequent visitor in his home and I noticed that four times a year he changed the furniture about.

"Transhumance," my teacher said with a smile. "A change of scene means movement, life."

While in Mongolia I frequently recalled my friend. Transhumance here is really a way of life: everything is adapted to movement, ranging from the round nomad tent – yurt – to a transportable sewing machine and collapsible beds.

The Mongols have been breeding livestock, hence, migrating from time immemorial. Naturally, not only rural people look forward to warm weather. The towns are also populated by former nomadic stockbreeders. In summer every town and township develops a satellite: a rectangle of white yurts springs up some five kilometres away. The routes of town and township transport are altered. The lids are removed from wells covered for the winter. Shops shift to a new schedule. The children above all, enjoy the outdoor life. They chase each other on horseback across the steppe, help their mothers to gather kizyak – fuel bricks made from dung and straw – and preserve wild leek.

In the northern forest steppe zone stockbreeders move from place to place four or five times annually. In the Gobi Desert, in southern Mongolia, the people shift camp some 12 to 18 times a year. But no longer always by horse or camel. Trucks are now often used. Freezing temperatures in winter, spring breeding, safeguarding the herds and flocks from predators, all put a great strain on the people. This is why mechanized dairies, fattening grounds and "little farmsteads" are going up on the dist-

ant pastures of rural Mongolia. In addition to easing nomadic life, this makes possible a better organization of stockbreeding, taking advantage of the traditional methods while bringing them closer to the requirements of our time.

STRIPS IN THE STEPPE

Viewed from the top of a bald peak, the lands of the state farm Nomgon look like a twin-coloured mosaic: green strips, set squares and bars marking areas under crops, the black ones – fallow land. Actually, these geometric figures are not small at all, each claiming 100 hectares or more.

Nomgon is one of the 11 new grain-growing state farms set up literally in the past two or three years. When the virgin lands began to be ploughed up in 1959, only 75,00 hectares in the republic were under grain crops. In those days Mongolia produced 60 kilograms of grain per capita. At present – slightly more than 20 years later – the figure has jumped to 250, a total of 1,300,000 hectares being under cultivation.

The twin-coloured mosaic of the fields indicates that the Mongolian farmers know how to protect their steppe soils from wind erosion and droughts.

The intensification of farming and anti-erosion schemes are signs of our time in rural Mongolia. These efforts were launched recently but in the amount of farm equipment per 100 hectares the republic has approached the level of the European CMEA member-countries.

Research centres focussing on agricultural problems have been set up. Among them is an institute of land cultivation and plant growing and a network of base and crop-testing stations located in various climatic zones. The researchers and experts who work in these centres are young graduates of colleges in the Soviet Union and other socialist countries as well as in Ulan-Bator, the capital of their own country.

A YOUNG CITY WITH AN OLD NAME

Several years ago, not far from the Kerulen River, by Lake Baganur, a prospectors' township sprang up. Here geologists discovered large deposits of brown coal – almost 320 million tonnes.

The prospectors did their job and left. In their wake came skilled construction workers who had built up Asia's largest integrated copper-molybdenum concentrating plant – Erdenet – and a city of the same name next to it. They had stretched a 64-kilometre waterway and between the Selenga and Orkhon rivers

created the country's largest base of industrial development.

Now, a large number of Erdenet people have moved to Baga-nur. A town has already sprung up and roads leading to the place have been laid. The total capacity of the coal-mining complex will be six million tonnes – more than the present output of the entire country. The first section has already become operational.

The coal seams run under the lake bed. The new town is named after the lake, Baga-nur.

A LAKE KNOWN AS AN OCEAN

Captain Bata of the most northerly Mongolian town of Khankh enjoys the reputation of an old salt. Khankh lies on the shores of Lake Khubsugul, which has an area of more than 2,500 square kilometres and which the Mongols call Dalai-nur, or ocean-lake. Like its northern neighbour in the Soviet Union, Lake Baikal, it is a freshwater lake. True, its water is greenish, not blue. But it is clean, as in Baikal. It is no accident that, like the Buryats, who live in the Soviet Union (in Transbaikalia), the Mongols have a legend about an underground link between these sister lakes.

Baikal's Mongolian counterpart is also fierce and stormy. In the autumn of 1982, Bata recalled, waves reached a height of 10 metres and more. In November his ship, the Sukhe-Bator, leading a caravan of barges, got caught in a storm. The ship's holds and the barges contained traditional Mongolian goods – wool and leather goods and ore. On the return trip Bata was to deliver from the Soviet Union building materials, oil products, machinery.

The wind lashed the caravan unmercifully and visibility was nil. The tow cables snapped. The captain's cheeks, nose and ears became frost-bitten. Finally, he spotted an entrance into a natural harbour. At night the wind kept raging but by morning it had abated. The barges were located, the cables were refastened and the smashed deck superstructure was repaired. Only then did the caravan resume its journey – northwards to the Soviet Union. The trip took five days instead of one night.

Recent years have seen qualitative changes in the structure of Mongolian exports and imports. In the opinion of Captain Bata, which, incidentally, is confirmed by statistics, mining products and finished goods account for an increasing share in the country' export while its import shows a mounting percentage of plant equipment and spare parts.

In addition to the Soviet Union, Mongolia maintains trade relations with another 30 countries. By and large transit shipments



cross Soviet territory. Five traffic arteries connect Mongolia with our country – two through the Soviet railway junctions at the stations Naushki and Chita, a third is the Chuya Highway, a

As a whole, the face of Mongolia has changed greatly and continues to change before one's eyes. Only the ancient sutras chanted in the Buddhist temples remain unchanged.

Modern housing blocks in Ulan-Bator, the country's capital.

The integrated copper-molybdenum concentrating plant Erdenet.

The mineral wealth of the steppes is being worked.

fourth is an air route stretching from the Buyat-Ukha airport to Moscow and the last is the "sea" route across Lake Khubsugul.

NO FUSS

According to old Mongolian concepts, the worst human vice is fussiness.

Don't fuss if you have not done anything good, an old Mongolian saying goes. Still less so, if you

have achieved something worthwhile. And don't fuss at all if you have only set a goal.

Let us say that your car has bogged down in a swamp, don't fuss and, of course, don't despair. On reaching the nearest yurt, discuss how well the cattle have fattened and whether there has been rain since last spring. Let the hosts treat you to tea. When asked how things are, say that everything is fine and only then ask for bulls. They will drag any car out of a swamp. In talking to people you will perform a useful function by providing an additional source of information. In the steppe news is valued very highly and spreads like wildfire. Of course, in our day there are newspapers, radio and in many places TV. But can they replace a colourful eyewitness story garnished with precious details?

A group of experts from the Soviet Union, India, Nepal, the Federal Republic of Germany, the United States, Britain and Australia – participants in a UNESCO-sponsored symposium – stayed for more than a week at the Uran-Tush phosphorite deposit. The symposium was highlighted by all the media. While watching a TV broadcast about Uran-Tush, the sons of my Mongolian friends – two schoolboys, Namzhidsuren and Tuvdensuren – gravely told me that they had firmly resolved to work there.

"But you are still little boys!" I reminded the children.

"Well, not now, of course," Namzhidsuren judiciously retorted. "First we must finish school and acquire professions. I will most likely become a geologist but my brother," he said, indicating the younger lad, "is still considering what to become in order to make himself useful at Uran-Tush."

Tuvdensuren nodded in agreement:

"I must really think."

The brothers were obviously not making a fuss.

LITTLE ROCKS WHICH YIELD GREAT CROPS

Rocks such as tuff, pumice and scoriae are of volcanic origin. Being porous, they retain and accumulate atmospheric and ground water. The rocks also contain microelements which are useful to plants.

And what if volcanic crumbs were to be added to the soil of arid agricultural areas?

It was discovered that crops of maize "fertilized" before sowing with different amounts of tuff and scoriae increased, depending on the initial soil structure, by 60 to 230 per cent. Tomato and grape harvests almost doubled. Collective farms in Armenia (one of the Soviet republics – Ed.) are introducing this additional form of soil tillage: the expenditures are already recouped when the crops rise by 15 to 20 per cent.

From the newspaper KOMMUNIST (Yerevan)

Exposing his hand to a laser beam, the Moscow physicist Gurgen Askaryan, as if intuitively, pressed a glass stick to his palm. The result of this accidental experiment amazed seasoned laser researchers and theoretical physicists alike.

LASER BEAM INVADES THE INVISIBLE



by Albert VALENTINOV

condensed from the APN Newsletter SOVIETSKAYA PANORAMA

Photo from the magazine PRIRODA

When I arrived at the Plasma Physics Laboratory of the USSR Academy of Sciences' Physical Institute, a laser was already at

work, piercing the half-darkness with its bright red beam.

"Here's how it was," said Askaryan. "Place your palm under the beam. Don't worry, it's safe." I stretched out my hand and a crimson circle fell on it, caressing the skin.

"Now look," Askaryan said, lightly pressing a glass stick to the back of my hand.

Although I knew what was going to happen, I involuntarily started when part of my palm became transparent.

"Move your hand slightly to the left."

I did as I was told and the network of veins distinctly stood out in the centre of the red spot. Another movement, and a bone showed on the tiny "screen."

Science is no stranger to fortuities. Askaryan himself does not know why he performed his manipulations with the glass stick. Possibly, because he had already made two discoveries which had also begun with the question: "And what will happen if . . .?"

This new discovery upset all entrenched concepts. After all, a living organism with its complex interweaving of heterogeneous tissues is classed with what is known as turbid mediums, which diffuse and weaken rays of light. Whatever the laser beam's intensity it cannot "enter" a human body by more than two millimetres. But as soon as living tissues are compressed . . .

As the first step, this new phenomenon required an explanation. Even if not totally accurate. After all, a jumping off point was needed. The first assumption was that the underlying cause was the outflow of blood from the area of pressure and tissue thickening – a hypothesis which has yet to be either confirmed or disproved. Moreover, it does not offer any explanation for another fact: the phenomenon takes place in other turbid mediums as well. In my presence Askaryan inserted something between two foam rubber plates and exposed them to a laser beam. The external plate was opaque. However, as soon as he touched the foam rubber with the same glass stick the material distinctly showed crossed wires.

"We have conducted other experiments as well," said Askaryan. "For instance, when one of our associates was involved in a car accident, we disclosed all the metal splinters, bits of paint

and glass fragments which were in his hand. And surgeons effortlessly extracted them. We also wrote letters on the palm of a hand and when the tissues were compressed the laser clearly 'developed' them. **In other words, unlike the X-ray unit, the laser works equally well whether the hidden material be metal, wood, bone or even paint.** This property of the laser beam holds spectacular prospects, ranging from the quality control of industrial products to the detection of paintings by old masters hidden under later layers of paint. However, the most valuable aspect of the phenomenon is the laser beam's ability to penetrate into a body under certain conditions. This offers an undreamed-of potential to medics."

"But the laser has long found uses in medicine, especially surgery, in the treatment of trophic ulcers, burns, wounds, injuries, stomatitis."

"But all those are surface processes", said Askaryan. "And 'surface' diseases form only a minor part of possible human diseases. The laser could be found to be far more effective in the treatment of many internal diseases than the remedies which have been used until now. Medics have long known this but have had no means of 'reaching' the internal seats of a disease with this curative beam. The phenomenon we have discovered offers them the means. More. The laser can irradiate a strictly specific cell group, leaving all the others untouched. None of the widespread physiotherapeutic procedures could achieve this until now. We have demonstrated the basic possibility of using laser beams to inhibit pathological changes, for instance, in the spine, in treating diseases such as multiple sclerosis, in influencing centres which control immunity processes, let alone in tumour therapy.

"Incidentally, the effect of an increase in transparency when compression is applied is also true in the case of other sources of light and emissions – X-ray, ultrasonic and radio. This will widen their scope of medical application."

"But can a human body be compressed enough for a laser beam to 'go through' it? You can't very well place the patient under a press."

"Of course, not. However, even a light pressure permits the beam to reach a substantial depth. This has led to the discovery of a cu-

rious fact: when the pressure is lifted the transparency persists for another two or three seconds – long enough for the blood to refill the vessels. It follows that in the case of prolonged irradiation of a diseased organ it is possible to apply periodic pressure and release, allowing normal functioning of the blood. On discovering this, we considered how we could enable the laser beam to reach the 'inner recesses' of the body. Eventually, we hit on it."

Askaryan took something from a shelf and raised his hand to a laser. A thin metal strip gleamed on his palm. Peering closely, I saw that it was the needle of a medical syringe.

"Through this tiny pipe it is possible to inject not only medicine into a patient, but a laser beam as well, directing it precisely to its 'point of destination.' If you look at this needle through a strong magnifier you will see within it a glass light guide."

"When will doctors begin to use your technique of deep laser treatment?"

"Not soon. An enormous amount of research must first be undertaken. But medical institutes have already begun on it."

Most probably, mosquitoes have drawn more blood than wolves.

In the development of the wild expanses of Siberia and the Soviet Far East and North, they pose a serious problem: on occasions they reduce the labour productivity of construction workers by 30 per cent.

This insect with a sharp proboscis weighs only 3 to 7 milligrams but it helps one to grasp the relativity of the discomforts of life. Around Moscow, for example, there is an average of one mosquito per 10 square metres of the earth's surface. Nevertheless, some dwellers in summer cottages complain that mosquitoes make life unbearable. Meanwhile, the average mosquito density in the Soviet tundra is seven per one square metre. In some northern areas a man walks or travels by reindeer through grey swarms of mosquitoes and midges as if ploughing through them, leaving a trail after him through the air for some time. Such a picture can be seen, around Urengoy, one of the world's largest gas deposits located in the north of the Tyumen Region. In bush country where the wind drops the density of this insect population reaches

WHAT IS TO BE DONE WITH MOSQUITOES?



by Yuri LIPATNIKOV

condensed from the magazine ZNANIYE – SILA

100 specimens per square metre. At times the buzzing of mosquitoes sounds as if tractors were ploughing the land close by.

Male mosquitoes do no harm to man, they live on plant nectar. In contrast, females must suck the blood of some warm-blooded creature in order to procreate. They can spot a man or beast from as far as 500 metres away and in a half hour walk a tundra wayfarer draws up to 7,000 mosquito females. It is very difficult to keep them off by means of clothes and mosquito nets.

And what about animals? Bears on the Kolyma River, in Yakutia, at times roll over the ground with a pitiful wail in order to crush the mosquitoes which cluster all over their backs. However, this does not help for long. The bruins are forced to take to their heels and plunge into ice-cold water in order to relieve their sufferings at least for a while. Gnats (a mixture of midges, horse-flies and mosquitoes) prevent reindeer from peacefully grazing, the animals grow catastrophically thin and sometimes die of asphyxia as they run, the insects having clogged up their nasopharynx.

Only recently man combated the insect by pouring fuel oil into small bodies of water where mosquitoes breed in spring. This is akin to burning the forest in order to ensure successful elk hunting: after all, together with the larvae everything living in these bodies of water dies as well.

In Canada the builders of a pipeline processed a large area with DDT and hexachlorane. Naturally, the biting insect population dwindled but fairly soon these substances began to make their way into human stomachs with water, fish, mushrooms, berries.

A method of combating mos-

quitoes without harming nature as a whole remains to be devised.

The mosquito's "private life." Ecologists from the Ural city of Sverdlovsk are studying the tundra mosquitoes in the interior of the Yamal Peninsula, which juts out into the Kara Sea. In Latin the genus under study is known as Aedes, its species being among the 20,000 most thriving mosquito species on earth.

How long does the northern mosquito live? The male lives eight to 10 days, the female up to a month.

How are the sexes distinguished? A female has few feathers on her antennae while a male is graced by fluffy ones. Incidentally, these are the organs of hearing of the Aedes genus.

As flight vehicles mosquitoes are the most perfect of all dipterous insects. Tiny balancers located behind their wings stabilize their flight. That is why a mosquito makes a pin-point landing on the chosen spot.

Can mosquitoes fly long distances? Biologists sprayed luminous paint over their containers and released them. Later, trapped insects were placed on a sheet of paper and wetted. Paint spots which turned up indicated tagged mosquitoes. They were found to be capable of flying almost 10 kilometres from the container.

The top speed of a northern mosquito remains to be measured. However, for comparison's sake I will note that a malarial mosquito can successfully pursue a fast-running horse (up to 30 kilometres an hour).

The secrets of its viability. How do the Aedes mosquitoes procreate? A male has up to 15 females. As a rule, male mosquitoes swarm together, hovering in some specific spot, more often than not towards evening, making figures of eight in the air. The female, attracted by the buzz (this noise made by the balancers has an informational designation). flies into the swarm and in a short while leaves it with a partner. Conjugal life among mosquitoes lasts two or three minutes.

Mosquitoes live only where there is water. None are to be found in the centre of an arid desert. Water is required for a female to lay her eggs. A mosquito larva changes into a pupa which rises to the surface of a body of water. Emerging out of its larval case, the mosquito then floats on it, as if on a raft. Perhaps this is the most vulnerable moment in its development: the insect is no longer capable of swimming and is not yet capable of flying. If a strong wind rises when mosquitoes emerge, it spells their imminent mass death. This happens. However, for some reason the percentage of mosquitoes that perish remains constant ev-

ery year. Nature is sly and calculating: the larvae emerge from the body of water over a period of 20 days rather than in one. As a result, an accidental frost or wind cannot kill off the entire population.

Pros and cons in mosquito destruction. What place do these fragile beings occupy in northern nature? Mosquito larvae are the food of the fry of valuable fish varieties and some adult fish. Northern bodies of water largely owe their fish wealth to mosquitoes. Small northern birds are equally indebted to these insects for their lives. Although each little mosquito is near-weightless, millions of specimens add up to kilograms (five kilograms per hectare of the tundra surface). Swallows, warblers, swifts eat them in places of insect concentration.

However, this is not all. Like other insects, mosquitoes when they die, drop to the ground, fertilizing it for century after century. This biological fertilizer is vital to the plant world. By destroying all mosquitoes man would destroy a stage in the circulation of matter and energy.

Nevertheless, science has long faced the task of delivering or at least protecting man and beast from the nagging and tiresome and not infrequently fairly dangerous tribe of blood-suckers (malaria carriers). The goal of Soviet scientists is to devise partial methods of combating them rather than total. In this sense, the future no doubt belongs to biological methods. Already today on Soviet northern islands, with their isolated mosquito populations, their propagation has been substantially reduced by the sterilization of males.

Have reliable individual means of protection been evolved? The press in different countries has on many occasions announced that a new "radical" preparation that repells the insect has been devised, or special protective fabrics, but so far the combination of reliability and convenience of use in the difficult conditions of the North has proved elusive. The latest novelty comes from Japan. The point is that female mosquitoes develop a thirst for blood only when their eggs are fertilized. Simultaneously, for biological reasons females develop a revulsion for males. A small device in the shape of a fountain-pen cap attached to a worker's clothes creates something like a protective field with a radius of one to three metres: the cap radiates ultrasonic waves which faithfully imitate the whine of male mosquitoes and the buzz of their wings. A female sees her victim but cannot bring herself to bite it. Whether mosquitoes will find a way out of this new situation remains to be seen.



According to Gleb Panfilov his films are like structures resting on one column: the entire structure is built around the heroine, who is always played by Inna Churikova. Examples are 'There Is No Passage Through Fire', 'The Beginning,' 'I Request the Floor', and, finally, 'Vassa', which won the Gold Prize at the 13th International Film Festival of 1983 held in Moscow.

Inna Churikova in the role of Nele in Moscow's Lenin Komsomol Theatre's production of "Tyl."

This Always Surprising Inna Churikova

by Yelena MYASNIKOVA, a correspondent of the magazine SELSKAYA MOLODYOZH

Photos by Galina KMIT & Victor GRITSYUK

She entered films like an ugly duckling – as the plain friend of the fascinating heroine of the picture "Clouds over Borsk". Her job was to set off the main character by creating a counterpoint. A member of an amateur drama society, Inna Churikova was then a ninth-former.

A year later she applied for admission to Moscow's Shchepkin Theatrical College and, much to her surprise, was accepted, receiving top marks from the admission board's male members.

Churikova was instantly typecast as a comedy actress – a type which is rare, in great demand, highly regarded and enjoys instantaneous success. She somersaulted, fell flat into sand, played eccentric roles, pantomime and the drama. Her dramatic performances always raised laughs.

Screen directors and writers realized that Churikova drew audiences and invented roles specially for her. Gleb Panfilov had not yet arrived on the scene. He had just graduated from the Ural Polytechnical Institute as a chemical process engineer and had gone to work as a foreman in a plant.

On graduation she joined the company of the Moscow Young Spectator's Theatre and spent two seasons playing bit parts. Meanwhile, Panfilov organized an amateur film studio in Sverdlovsk and worked for TV. He found himself increasingly attracted to films, which eventually became his vocation.

CHURIKOVA: That was when I met Panfilov. On the set of *There Is No Passage Through Fire.*

Having seen her once on TV, he realized that she was perfect for the part. Either Churikova or there would be no film, he told a session of the artistic council which at first refused to endorse Churikova as the performer of the main role.

PANFILOV: Inna Churikova is a personality, one of God's own. I would pick her out in a crowd of thousands.

CHURIKOVA: *There Is No Passage Through Fire* is a picture



Pasha Stroganova in the film "The Beginning." Leonid Kuraviev plays Arkadi.

about an original young artist named Tanya Tyotkina, a doctor's assistant thrown by fate and time into the vortex of the Russian Civil War. With all her heart Tanya feels the beauty and justice of the cause the Red Armymen are fighting for. To them does she dedicate her naive and simple-hearted but talented pictures which breathe joy and life although death is raging all around her. She draws her pictures on the walls of railway cars, on sand, on pavement, anywhere, never taking offence at jibes and lack of understanding. However, war is cruel, and this rather strange, awkward girl dies, having resolved to share the fate of her comrades who have fallen into the hands of punitive troops. She could have saved herself but selflessly accepts death.

I remember persistently asking Panfilov during the shooting: what am I supposed to do at this point, and here, and here? And he would say: enjoy the sunshine, get warm. And he was quite right. Tanya Tyotkina was part of nature – natural and kind, like a green tree, like a murmuring brook. But this was extended by her selfless death, in other words, her capacity to pay in gold. This amounted to a constructive attitude to life – the sign of a real personality.

The film left no one cold, the audiences laughed and cried. Critics went wild over the new screen star. One reviewer wrote that she was a Charlie Chaplin in a skirt. At the International Film Festival in Locarno the picture won top prize – the Golden Leopard. Churikova also took home the prize for the performance of the best female role. The actress later said that the film marked her rebirth.

CHURIKOVA: How did I benefit by work with Panfilov? He simply recreated me. Before I met him I had been a narrow comedienne, who simply made



Inna Churikova in the role of Joan of Arc in "The Beginning."

audiences laugh. That was all. He helped me to grasp the meaning of my profession. It is a great joy to work with a director like Panfilov. I share his thoughts, trust his taste, intuition, talent. On many occasions, when I had lost faith in myself, he set me right.

MYASNIKOVA: Did you have actresses in your family? Your mother? Perhaps your grandmother?

CHURIKOVA: No. I spent a large part of my childhood in the countryside with my grandmother. She was a gifted woman in whatever she did. She did not have acting talent, but she had an ordinary human one. She loved beautiful things, loved nature. My love of the land comes from her. If I am unable to potter about in the garden the summer is wasted for me.

My mother is a soil scientist and biochemist, a professor at

Moscow University. She and I lived together in town. Ours was a difficult, unsettled life. A young post-graduate with a small daughter on her hands, she was, nevertheless, no end of an optimist.

The scenario of his second film, "The Beginning", was written by Panfilov especially for Churikova. Here she played two roles, more exactly, a role within a role. Pasha Stroganova, a small town factory worker, is mad about the theatre. In an amateur performance she attracts the notice of a Moscow film director, who invites her to play Joan of Arc in his picture. On the screen Churikova lives a year in the life of her Pasha, who experiences an unrequited love, a creative triumph and a subsequent disappointment. "There are no requests for you," Pasha is told at the studio. "With your looks, you must have a script written specially for you" – a situation the actress had faced in real life. The film includes several episodes from the life of the heroine of France. These two women who exist in totally dissimilar circumstances are brought together by basic qualities such as straightforwardness, trustfulness, kindness, the ability to believe and love wholeheartedly. Add to this the inner fire which Churikova generously shares with her heroines.

MYASNIKOVA: All your heroines are deep personalities, enchanted souls, gifted people – no matter what sphere their talents manifest themselves in. What is your concept of a talented personality?

CHURIKOVA: My heroines are at times called strange. However, their strangeness lies in overcoming a stereotype. They know how to find the poetic element in any prose. They have the gift of loving, their love is always focussed on the beloved, not on themselves. It is a generous love that asks for little in return. Their passionate natures take them into fire and water and make them stop a runaway horse. They are also endowed with the ability to serve people and vindicate truth and always remain true to themselves. Take Joan of Arc, with her noble motto: who will do this if not I?

When Tchaikovsky was writing the music for *The Maid of Orleans* he read the protocols of the interrogations of Joan and, in his own words, tears dimmed his eyes and his hand which held the pen trembled: he pitied her so. But perhaps such a life was worth living? A country girl, she helped her mother about the house, went to church, tended sheep and goats. Suddenly, the thought came that it was up to her to save France, her homeland. If not she, who else? An ordinary person would say that she was simply crazy. But this ordinary girl conceived the idea and carried it through. How she fought for herself, her dignity, her mission, her king! And her king betrayed her.

MYASNIKOVA: It seems to me that I can spot the character of Joan of Arc (your Joan of Arc)



in your other roles. Or am I exaggerating? Take Yelizaveta Uvarova in the film *I Request the Floor* – an ex-sportswoman, a celebrity and now the mayor of a city. Of course, her manner of conduct does not at all suggest fire but she displays the same

City mayor Yelizaveta Uvarova in "I Request the Floor."

feeling of responsibility. It even appeared to me that she was as naive and impractical as Joan of Arc.

CHURIKOVA: She is an admirably impractical idealist.



However, I did not want her to suggest fire because as a leader she could not allow emotions to overwhelm her, which could result in a wrong decision.

Her talent lies in never being indifferent – either to her own family or to other people. Isn't that a wonderful quality?

PANFILOV: The infinity of a miracle is what sums up the actress Inna Churikova. Each new film makes me feel that I have exhausted her possibilities, that I have learned and understood all about her. However, the next film she makes shows me that I have neither learned nor understood what she is like.

My decision to cast Churikova as Vassa Zheleznova in my latest picture, *Vassa,* seemed to many people to be a challenge to tradition. However, it was only a deviation from the stereotype. How did it all begin?

It all began with a surprise. When I reread this play by Maxim Gorky two years ago I was amazed: I saw something like a new play, hitherto unread by anyone. I was amazed by the fact that Vassa, as the author put it, was "a woman of perhaps 42 appearing to be younger." Customarily, however, she was presented as a woman in her 60s. And I was still more amazed by the fact that Vassa, according to her younger daughter, was a "humane woman." In other words, not a monster, not a monumental embodiment of capital, not a Zheleznova (an iron woman) as she was seen by all people around her and as she had hitherto been played both on stage and screen, but a sober- and practical-minded woman, who was also kind and **humane.**

CHURIKOVA: All we have said so far about my heroines can be applied to Vassa Zheleznova only to a slight extent. She stands alone, representing one of the most complex characters in Rus-

Vassa Zheleznova in the film "Vassa."



At the XIII Moscow International Film Festival, 1983. Inna Churikova, Gleb Panfilov and their son Vanya, who was also in the film, receiving the Gold prize.

sian drama. She is a "business woman" of the 1913 model, educated, keeping pace with the times, the owner of a Volga shipping line who knows her job, the head of a rich family. She takes responsibility for enormous capital, in other words, controls the fate of thousands of people. And what about her home? Who else, if not she, could take care of the future of her children? Who organizes the everyday life of her large family full of layabouts? Who can settle the case of other people's crimes with the police and in court?

Vassa is in deep conflict with herself. For the sake of her family, for the sake of the business to which she has devoted her life, she takes on grave sin. Her husband is threatened by a disgraceful trial on a charge of corruption of a minor. And Vassa demands of him nothing less then suicide. That is the only way out. Otherwise a trial, convict labour, a smear on the reputation of her entire family, with two marriageable daughters. My Vassa is a woman created for happines, for one great life-long love, but a woman forced to live in a vicious circle of money-grubbing and cynicism. This strong woman chooses not vengeance for the humiliations inflicted on her and the unfaithfulness on the part of her once loved husband, but the crushing weight of her own guilt.

PANFILOV: Churikova plays a tragic, Shakespearean figure, but one marked by a deeply Russian nature. The force in her is not iron, but mild, it is, as I see it, the general source of Russia's strength. During mass deaths, hunger, war, the delicate Russian woman becomes a powerful force. We strove to imbue our film with Gorky's humanism, Gorky's hatred for the world of shopkeepers, Gorky's reverence for Woman.

FROM THE COLLECTION OF THE CLOWN YURI NIKULIN

Light and Shadow

A young director, making his first film, was selecting a site for an outdoor sequence. He plunged through the forest, pushing his way through the underbrush. Breathing heavily, scarcely able to keep up, his cameraman, an elderly stout fellow, followed. At last, in a dense thicket, where the lush foliage made it dark, the director stopped and exclaimed triumphantly:

"This is where we'll shoot the rendezvous scene!"

"This is where we'll develop the film," the cameraman replied.



No one has ever witnessed immortality in nature. However, the lifespans of living creatures are amazingly diverse.

FROM DAYS TO CENTURIES

by Stanislav STARIKOVICH

condensed from the magazine KHIMIYA I ZHIZN

Drawing by Vladimir BAI

Why do some species live for decades and even centuries while other survive for only a few days? Why does a May-fly – a three-tailed butterfly with transparent wings – live for three days at the outside and lead a hungry life, having no mouth? Whereas a flea can bite into somebody for three long years of its life. The lifespan of this blood-sucker is one tenth of that of a chicken. And a little hard-working mole spends up to 50 years in the underground prison of its own choice. Record longevity is displayed by turtles – symbols of slowness and imperturbability – some of which live as long as 300 years!

It is not easy to determine an animal's age. In a zoo or on a farm it is known where each animal came from and the date and causes of death. But in the case of wild animals and fish the matter has to be approached differently.

The approximate age of fish is judged by their size: these denizens of the water keep growing as long as they live. And the age of mammals has long been determined by the wear on their teeth. It can also be calculated by the weight of their eye lens, which grows heavier with the years.

All schoolchildren know that the age of trees is told by their annual rings. It has been discovered that the scales of fish and some bones of mammals also make it possible to calculate their age in similar fashion: in both cases



laminar structures grow in number each year.

To establish the age of a fish with scales that are very small or on which the layers are invisible, otoliths can be used. Any fish has three of them in its auditory system. However, only the biggest fits the bill. By sawing it and counting the annual layers under a microscope, scientists measure the age of a plaice, halibut, hake, cod, burbot.

A horse's age is told by looking into its mouth. And even by pulling out a tooth. It also has annual layers on it. Distinct age indicators are to be found on the enormous tooth of a sperm-whale and the modest incisor of a beaver. Not counting the narwhal, with its protruding lance-like three-metre left tooth which serves for ice breaking, the most toothy animal on earth is the elephant. Its tusks function like teeth. And its age is frequently compared to the size of its tusks. In fact, however, their length can deceive because it depends not so much on the elephant's age as on its conditions of life. Incidentally, of all

mammals the elephant alone can vie with man in terms of longevity. There is an authentic description of an elephant that lived to be 140 years old. The elephant is followed by the beaver, brown bear and the donkey.

The life of an animal can be prolonged artificially. For instance, the emasculation of salmon makes their migration to a river for the laying and fertilization of roe unnecessary, thus postponing their inevitable death. The addition of lactic acid to a fruit fly's food improves its metabolism and prolongs its life. The lifespans of laboratory animals can be doubled by a rational combination of cold and hunger: superfluous calories never do any good!

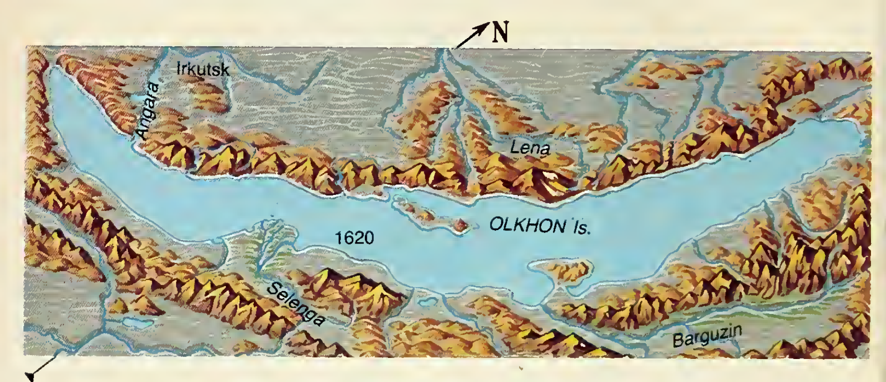
However, nature is nature. Under the wrinkled hide of a senile giant, just as under the chitin cover of an elderly fly, the concentration of water in the tissues decreases, the activity of enzymes slows down and the neurons grow old. The specific lifetime is a "tough nut to crack." It depends on how many divisions the cells can make. For example, those of a hamster or a pig divide not more than 15 times.

The shortest life is recorded by organisms which either display few cell divisions or a short interval between them. If in some creature evolution has programmed a modest size for these two parameters, its life is short. Some evolutionary commands are so sophisticated that they distinguish even between members of one "family." For instance, the queens of bees, ants and termites live 20 to 30 times longer than their own offspring – working specimens.

Another example of evolutionary tricks: a fly known as the frog-eater because its larvae feed off frogs dies in the prime of life. On spotting a frog a fly with ripe eggs lands and shuttles in front of its nose until the frog swallows it. Thus, at the cost of its own life, the fly places its progeny where it is good for the species.

What species live longest of all? Giant sequoias are estimated to live for 3,000 to 4,000 years and this is true of the baobab as well. But the modest macrozamia, a small palm-like Australian tree tops the list. According to scientists, it may well be the longest-living denizen of our planet: its age allegedly reaches 15,000 years.

Although the scientific study of Lake Baikal has been going on for many years the nature of this amazing body of water remains a puzzle in many ways.



AN ECOLOGICAL PHENOMENON OF THE PLANET

based on the book
THE LIGHT EYE OF SIBERIA

APN photos

According to legend, when God was creating harsh Siberia he dropped one of his most precious possessions – a pearl of rare beauty. However, when he saw it gleam with new colours in the boundless green sea of the taiga he decided to let it remain where it had fallen. This is the legend about the birth of the planet's deepest lake, Baikal (1,620 metres), whose rock basin claims one-fifth of the world's fresh water resources.

Lake Baikal lies at the heart of Eastern Asia and stretches 636 kilometres north to south. The natural landscape in the area combines the blue of the oceans, the crystal transparence of the lakes of Switzerland, the sparkling magnificence of the snowy

peaks of the Pamirs, the beauty of the sand dunes of the Baltic and the green of Alpine meadows. The Baikal area can boast of singing sands, stalactite caves, turbulent waterfalls, mirages, rock drawings of prehistoric man. And the marvellously clean air is scented with the fragrance of the Siberian taiga, graced by the tang of cedar resin and grass in summer and the frosty smell of long-lying snow in winter.

Lake Baikal is a unique natural laboratory with the continuous formation of original new species and animal forms – a priceless genetic treasury of the planet. It would seem that life here should be less rich and varied than in the tropical zone. However, the equatorial freshwater lake, Tanganyika, whose age, depth and even configuration resemble those of Lake Baikal, numbers only 400 organic forms as against Baikal's 2,500, three-quarters of them endemic!

Many puzzles have been presented to scientists by the Baikal oil-fish alone. Its 15 to 20-centimetre-long body is scale-free and half-transparent. With its delicate build the fish, swimming swiftly, dives straight into the bottom mud and travels horizontally for several metres before shooting to the surface. What gives such great strength to this little fish? After all, at such depths (1,400 to 1,500 metres) the pressure would prevent even a gun firing.

The Baikal oil-fish is a viviparous creature. It is entirely boneless but has enough fat to make it melt in the sun. In the old days its fat was melted and burned in lamps instead of kerosene. It was also sold to China, where it went into the making of a variety of medicines.

All who talk about Lake Baikal's animal world inevitably mention the Baikal seal – a very curious animal. How did the large pods reach the very heart of Eurasia, thousands of kilometres from the oceans? Presumably, they reached the area by moving overland from the Arctic. However, this is a mere assumption. A series of experiments with seals have been conducted by a group of American physiologists. They became interested in the seal's ability to remain underwater for up to an hour and longer. The scientists hope that their research work will help devise biological preparations to prevent heart attacks.

Perhaps the greatest miracle of Lake Baikal is its water. If some spot of the earth suddenly developed a hole the size of the lake's basin it would take all the rivers of the globe many months to fill it. These waters would



require a thosand years, if not more, to attain the cleanness which allows a dropped coin to keep shining as it sinks until the eye tires of watching its descent into the lake's crystal waters. But even then the water would not become a carbon copy of that of Baikal because it would not be equally free of chemical impurities: local drivers add Baikal water to their truck batteries instead of distilled. Like a coniferous filter, the Siberian taiga sieves waters in the process of circulation and extracts their salts and microelements. Over millions of years a giant settling tank like this one could have accumulated a great amount of impurities. An annual 200,000 tonnes of silicon alone flow in from the tributaries. But Lake Baikal is indeed a unique masterpiece of nature. Its depths contain a myriad algae which build their cell membranes from silicon and, dying off, form what is known as diatome ooze – a biological filter capable of absorbing up to a million tonnes of silicon in three or four months.

Curiously, a scarcely perceptible change in the water's chemical composition immediately kills Baikal life. In the first kilometres of its journey the water of the Angara (the only river to flow out of the lake) is scarcely different from that of Baikal. However, even this incredibly small difference immediately destroys the bottom denizens and fish washed out of the lake by the Angara flow.

Baikal, the blue pearl of Siberia, contains many mysteries.

In general, lakes survive for tens of thousands of years at the outside. Lake Baikal is far older. Scientists have obtained exact data with regard to the sedimentary rocks which have become accumulated ever since Baikal came into being. They have discovered that this layer – two kilometres thick – exceeds the lake's own depth. However, Baikal has not grown shallow as a result. It follows that its original bottom subsides – a phenomenon characteristic exclusively of ocean rifts.

All oceans developed in former ancient rifts – deep crustal fractures. Some of the earth's rifts have "frozen," others develop, still others are in embryo. The Baikal rift zone, centering around the lake basin, is one of the biggest on our planet. Tectonic life here is exceedingly active. Up to 2,000 underground tremors of varying force are annually registered in the vicinity of Lake Baikal. According to recent data, the shores of the lake are annually spreading. Hence, there is a hypo-

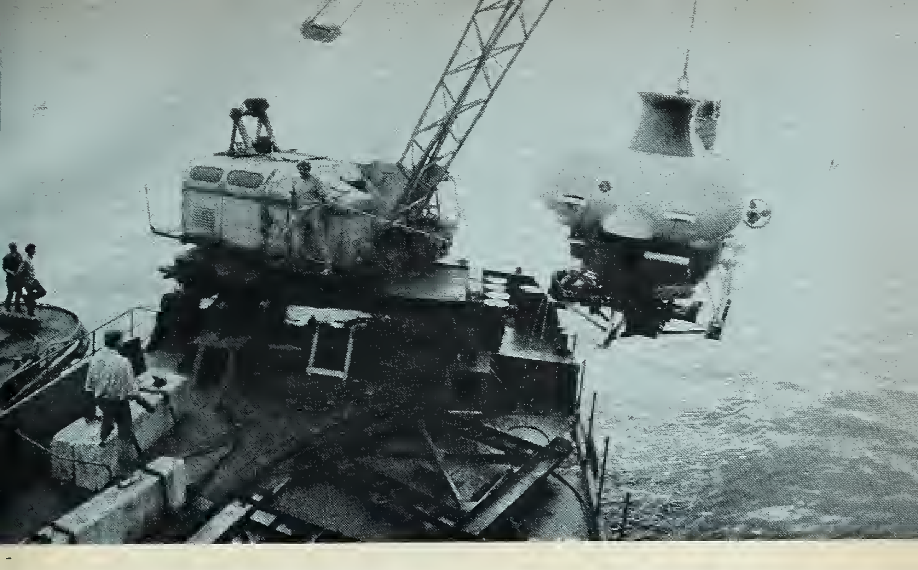
thesis that Baikal is an incipient sea.

The scientific interest of Baikal has many surprising aspects. It is the only spot where researchers can study, for instance, an extremely vivid expression of what is known as seiches, or standing waves (deep-water waves, as in the ocean), which form due to uneven, abrupt fluctuations in atmospheric pressure. It has been discovered that the mass of the Baikal water traps all rays of the visible and invisible bands of the



Bathyscaphes are used to study the lake's flora and fauna.

American physiologist Robert Elsner and Yevgeni Petrov of the Limnological Institute on the Baikal are conducting a series of experiments with the Baikal seal in order to obtain biological preparations that would prevent heart attacks in people.



spectrum and cosmic radiation. It is thought that the lake's depths contain even natural heavy water.

The surface of Baikal's cold waters combined with the surrounding high mountain ranges create conditions highly conducive to astronomical observations and so a big solar vacuum telescope for research in the field of solar-terrestrial physics is being put up on the lakeshore. A station for deep-water detection and registration of elementary particles of ultrahigh energies coming from outer space – muons and neutrinos – is slated for construction.

Many nature protection schemes have been carried out on Lake Baikal in recent years. Timber felling within 50 kilometres of the lake is forbidden, as well as floating log booms down the rivers which empty into Baikal. Strict control of hunting and fishing has been introduced. There is a ban on the construction of industrial enterprises with noxious emissions.

The protection of Lake Baikal, however, implies the protection of both the lake itself and of its entire catchment area, where the rivers and streams which run into the lake take their sources. This area, 500,000 square kilometres, is as large as France. A single network of reserves and wildlife sanctuaries under state protection is being created here. And a special flotilla for the additional cleaning of its waters has recently appeared on the Baikal expanses. This unique lake is not threatened by the sad fate of the Great Lakes of North America.



- HOW DID THE RUSSIANS EMERGE AS A PEOPLE?
- ARE THEY INDIGENOUS TO EASTERN EUROPE?
- WHO ARE THE RUSSIANS IN GENERAL?

THE BIRTH, FLOWERING AND DECLINE OF THE OLD RUSSIAN STATE

by Boris KROTKOV

Photos by Alexander BOZHKO, Lev RASKIN and Oleg LISTOPADOV

Historians have established that the Russian people come from an ancient nationality which evolved from the East Slavic tribes. The world knew about the Slavs two thousand years ago: they were written about by Pliny the Elder, Tacitus, Ptolemy. And all these authors wrote about them with respect: the Slavs were a tall, strong, brave, hospitable, freedom-loving peo-

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Only recently the Editors did not contemplate publishing essays in Russian history, assuming that they would be of interest only to a few readers. However, when the response to a questionnaire included in SPUTNIK in 1983 was processed, it was discovered that at least two-thirds of the respondents requested SPUTNIK to outline, at least briefly, how the Russian state was formed, what major events it had seen in its history, how it had arrived at the socialist revolution of 1917, and why.
The essays are scheduled to appear in 10 to 12 issues. – *Ed.*



At the end of the 10th century all lands of the Eastern Slavs were united in a single state. Kiev became the capital of the new power. Visitors to it noted the lavish Slav hospitality. According to an old Russian tradition, guests were welcomed with bread and salt.

ple. In those days they populated the lands located in the Vistula basin and along the coast of the Baltic Sea. There is information about the Slav tribes which in the 4th century lived northwest of the Carpathians, in the Danube mouth and along the Dnieper. The basis of the Slav social organization at the time was formed by a patriarchal family community. "These tribes," wrote a Byzantine author, "are not ruled by one individual but since ancient times have maintained people's rule (democracy)."



The Slavs developed their statehood at a slightly later date. Now historians are positive that by the 6th century the Slav tribe Polyane formed a principality on the middle Dnieper with Kiev as its centre. At about the same time another principality, with the central town located where Novgorod now stands, was taking shape.

It was long believed that the feudal Russian state came into being in the late 9th century.

Even the exact date was named: 882. This was associated with the coming to Rus of the Varangian Ryurik, whom the Slavs had allegedly invited as ruler "so as to bring order to their land."

Particularly zealous supporters of the Varangian version were historians of German origin who lived in Russia in the 18th century. However, "experts" who adhere to the Varangian, or Norse,



When the Land of the Russians was attacked, the entire people rose up in arms to defend it. Russians had a saying in those days: "Let us not bring shame on the Russian land, but fall dead, for the dead cannot be shamed."



Foreigners arriving in Russia admired the richness and splendour of princes' and boyars' palaces and feasts.

However, all this was founded on the hard labour of the muzhik. And he was becoming more and more dependent on the feudal lords.

origin of Russian statehood turn up to this day. In 1980 the West German magazine *Stern* published an essay by a Leo Sievers, *The Germans and the Russians*, in which it is stated point-blank: "The sailing of Norse vessels to the south opened Russian his-

tory," "previously, Russian history had vague outlines," "the Varangians sailed in their swift boats from Sweden in the 8th and 9th centuries," "they united the scattered Slav tribes, introducing strict organization," "they gave the Slavs the name Rus," "Ryurik was the first prince in the country," etc.

The actual pattern of events was not quite like this, or, more exactly, not like this at all. The Varangians did come sailing in their fast boats from Sweden in the 8th and 9th centuries, but as unwelcome raiders (incidentally, precisely the reputation they enjoyed in Western Europe as well), rather than invited rulers. They could not have united the Slav tribes, still less so, "introduce strict organization" for the simple reason that they lagged behind the Slavs in terms of social development. Even their writing and coin minting made their appearance 100 years later. If the Norsemen had really been Russia's rulers they would have left traces in its language, customs, beliefs, architecture, crafts, everyday life. However, they did not. As regards the word *Rus*, the Scandinavians had nothing like it in their language.

Meanwhile, the Slavs had a locality which, after the river that flowed there – the Ros, a tributary of the Dnieper – was called Ros or Rus. And they had a town on it, Rodnya. At one time it was the principal Russian settlement. Later, the honour passed to neighbouring Kiev. The name Rus, or the Russian land, was retained by the region. Subsequently it was assumed by the Russian state as well.

The Soviet writer Nikolai Mikhailov had this to say about that period. "The Dnieper was dominated by Kiev, the "mother of Russian towns," a capital with a rich palace and houses of craftsmen and merchants situated on the slopes rising from the river bank. There were almost 100 towns in the land, according to some sources, even more.

At the time, feudal Rus was the largest state in Europe. Between two fires – the restless Norsemen and the warlike people of the Asian steppes – the Eastern Slavs established a state which extended as far as the northern seas, the Volga, the Carpathians and the Black Sea steppes. Their struggle steeled the character of the Russians. The following appeal of Prince Svyatoslav is known to this day: "Let us not bring shame on the Russian land, but fall

dead, for the dead cannot be shamed."

Kiev maintained trade with Byzantium, the Arab East, Scandinavia, Venice, Bohemia, France. Russian merchants were mentioned in the German customs regulations in 908. In the eyes of Western Europe, Kiev was second in importance to Constantinople, the capital of Byzantium – the richest and most cultured country at the time.

Many monarchs of Europe were related to the princes of Kiev. The daughter of Grand Duke Yaroslav the Wise was married to King Henri I of France. A second daughter became the wife of King Harald of Norway. A third one married King Andrew of Hungary. One of Yaroslav's sons married the daughter of Emperor Constantine of Byzantium, another a sister of King Casimir of Poland".

However, the Kiev state was not the earliest on the territory now occupied by the multinational Soviet Union. Long before, in the south, especially in the Transcaucasus and what is now Soviet Central Asia, there were strong states founded by the ancestors of the Armenians, Georgians, Tajiks, Uzbeks. In Armenia, for example, excavations provide evidence of the existence of the state of Urartu, which took shape in the struggle against the Assyrians 3,000 years ago. Near modern Yerevan remnants of a citadel and of a 120-room palace which date to that period have been discovered. And north of the Black Sea and in the Volga steppes in the 4th-1st centuries B.C. spread the states of the Scythians and the Sarmatians. Later, the Scythian state was defeated by the Germanic tribes of Goths and the Sarmatians by the Huns, who had poured into their land from the heart of Asia.

That ended the ancient era on what is now Soviet territory, giving place to the feudal era, and with it Kievan Rus, which adopted Christianity as the official religion in 988. Previously, the Slavs had been pagans, one of whose main deities was Perun, the lightning-maker.

Christianity in the form of its Orthodox branch came to Kiev from Byzantium. At the same time Rus was completely independent of Constantinople, despite the efforts made by wily Byzantine politicians to bring it under some form of control.

A better grasp of the salient fea-

tures and ideals of the Russians of those days can be had by recalling the favourite heroes of Russian folk legends and tales. The most popular hero was Ilya Muromets, a strong, staunch, independent, incorruptible man who came from peasant stock. The next most popular Russian epic hero was Dobrynya Nikitich, whose key trait was bravery. The youngest of the trio, Alyosha Popovich, was famous for his cheerful disposition. However, the strongest and most glorious Russian epic character was the ordinary land tiller Mikula Selyaninovich, a man utterly devoted to his native land, on which he grew grain and from which he derived insuperable, titanic strength, which made even Ilya Muromets pause in amazement.

One could judge about the moral values of the Russians of those days by a sermon of the Novgorod bishop Luka Zhidyata (died in 1060): "Remember and show mercy to the wandering and the wretched . . . do not despise or mack others . . . respect your parents . . . do not be wrathful or arrogant, rejoice with the happy and grieve with the sorrowing." And he als called on people to live in peace and harmony.

That was the period of flowering of Old Rus. According to a chronicle, the word "Rus" was "known and could be heard in all ends of the earth." It occurs in the *Song of the Nibelungs*, the *Song of Roland*, Scandinavian sagas, in works by Nizami, the great Eastern poet of those times. In the French medieval epics Rus is called "beautiful." However, the decline and disintegration of the feudal Russian state were not far off. The first blow at it was struck by the Russians themselves – feudal lords and princes who unleashed bloody internecine strife (a similar process was then in progress in Western Europe as well). The next blow came in the early 13th century from the Mongol nomads who invaded the Black Sea steppes from Asia. They were led by Genghiz Khan, a ruler of spine-chilling ferocity and treacherousness and the founder of a barbarous empire.

With regard to the Mongol conquests their contemporary, the Arab historian Ibn-al Asir, wrote that "since the beginning of the world there has never been a more terrible catastrophe for mankind and nothing like it will ever happen until the end of time and Doomsday."

THE AIR WILL HELP STORE ENERGY

by Ilya ZVEREV, an engineer
condensed from the magazine YUNI TEKHNIK

This will happen very soon. New boreholes will be drilled and powerful compressors will drive air into underground caves, sinkholes left by salt mining, porous water-bearing beds.

Why should this be done? In order to create stocks of air?

In order to store energy.

Every morning, at the beginning of a working day, the indicators of power meters of the world's electric power stations crawl to their extreme notches: transport (trams, trolleybuses, metro) functions at full capacity, machine-tools, rolling mills, powerful reactors in chemical plants are switched on. The energy consumption is at its peak. In the evening, with TV sets, electric ranges, machine-tools operated by second shifts at work, it jumps again. At night the energy consumption drops. Electricity, which had been in short supply since morning, is now over-abundant. The coal which burns in the furnaces of steam power plants, the energy of the water which rotates the turbines of hydropower stations and the heat of the reactors of atomic power stations is all being wasted. What is to be done? Should the flames of furnaces be put out and the atomic reactors shut down? But any industrial equipment is harmed by abrupt changes in operation.

Unused electricity can be stored. For instance, by pumping water from one lake to another located above the former. In the morning peak hours water will pour through the sluices to turbine blades, thus restoring to the circuit the energy consumed on its pumping. Such water storage stations are now being built in

many parts of the world, including the Soviet Union.

However, lakes take up hundreds of hectares which could be sown to wheat. Moreover, in the morning such a station will return only something like 30 per cent of the energy consumed at night.

Researchers at the All-Union Heat Engineering Institute in Moscow have proposed building stations which store energy with the aid of air. However, if an air-storage station is to operate on the energy of compressed air for at least two hours it must have its own reservoir which is so big it could hold 200 railway trains! And it must sustain a pressure twice as high as that which develops in the cylinder of a motor car engine during the ignition of the fuel mixture. If such reservoirs were made of metal millions of tonnes of steel would be required.

Scientists have proposed pumping air into suitable natural reservoirs available in earth. However, the most interesting, if not the simplest, solution is to store air in cavities hacked out in rocks, where pressure will remain maximum as long as at least one litre of air is left there.

The secret of keeping the pressure steady (about 70 atmospheres) lies in an original concept proposed by scientists. Imagine an underground reservoir with a hole entering it from the side the way a straw enters a soap bubble. The hole has an exit on top, on the lake bottom. The water would penetrate into the reservoir but is kept out by the high air pressure. When the air begins to be let out on the turbine the pressure in the reservoir will proceed to drop and the stream of water which pours in will immediately "prop up" the air, raising the pressure again. And so on until all the air goes out.

Geologists say that in the Soviet Union sites for such stations can be found practically all over the country. Their construction will begin in 1985 at the latest.



A century ago no one needed helium. Now it finds application in many fields. In 21st-century technology it will become irreplaceable.

ELEMENT NUMBER TWO

condensed from the magazines PRIRODA and KHIMIYA I ZHIZN

It was not discovered by chemists. It was discovered in 1868 by astronomers when they were studying the spectrums of the solar corona during an eclipse – the reason why it bears its solar name, helium. On earth it was first spotted in 1881. It failed to attract any particular interest for the good reason that this element does not enter into chemical reactions, is found in negligible quantities and is extremely volatile.

In the late 19th century the British magazine *Punch* published a cartoon in which helium, depicted as a winking little man who lived on the sun, said: "At last I've been caught on earth! It's taken them long enough! I wonder how long it'll take them to guess what to do with me."

The discovery of earthly helium and the finding of practical application for it are separated by 34 years. The first to use it were the Germans. Regrettably, however, they used it for military purposes: in 1915 they pumped helium into their airships which bombed London.

Now helium has many uses. It is employed in detecting the slightest leakages in atomic reactors and other hermetic systems. A helium environment is used in growing monocrystals of silicon and germanium – basic semi-conductor materials. This is what has made it irreplaceable in electronics. The temperature of liquid helium makes many metals and alloys superconductive. Superconductor relays known as cryotrons have been finding expanding application in electronic computers. It seems helium will play a crucial role in the power industry as well. Suffice it to mention the cryogen turbogenerator and the thermonuclear unit Tokamak with superconductive windings devised by Soviet scientists.

Air in which nitrogen has been replaced by helium is breathed by premature babies in maternity hospitals. Helium-enriched air helps bronchial asthma sufferers. Experiments of Soviet, French and American researchers have shown that at great depths there is nothing like helium to help avoid the bends. Some biologists believe that helium-enriched air is the optimum environment for cosmonauts on long space flights.

It is known that food products preserved in a helium environment retain their original taste and fragrance. However, "helium preserves" will not become a reality soon: so far, the element is in short supply and is used only where there is no alternative. Although Element Number Two is also second in terms of frequency of occurrence in the Universe, there is very little of it on earth – only 0.003 milligrams per kilogram of matter. And it is not easy to obtain it.

HOW IS HELIUM OBTAINED?

Pure helium deposits do not exist. In natural gases it is to be found as a minor admixture (thousandth, hundredth and very seldom tenth fractions of one per cent).

The Soviet Union has no major gas deposits with a high helium content. In 1980 a large group of Soviet experts won a distinguished award – the USSR State Prize – for devising and introducing a process of obtaining helium from comparatively poor helium-bearing gases. A new plant which processes an annual three billion cubic metres of gas has been opened on the basis of the Orenburg gas deposit. The local gas contains only 0.05 per cent of helium – 100 times more than the air but one-tenth that of a really helium-rich gas. For the first time in world experience a large helium plant such as this was built on the basis of a poor raw material and a fundamentally new process.

The construction of the Orenburg helium plant was not preceded by the traditional pilot and semicommercial stages. Its basis was formed by the classical division of gases by liquefaction: the drop in temperature in turn liquefies different gases until only helium with an admixture of hydrogen – a helium concentrate – is left. Design engineers devised original apparatuses. Here is just one detail: inside such a 37-metre-high apparatus stretch 36,000 heat-exchange steel pipes with a total length of 400 kilometres. The designers used pipes only eight millimetres in diameter.

A host of entirely new design solutions were employed.

All equipment functions reliably at temperatures of around –200° Celsius. The result is the collection of 98 per cent of the helium contained in the natural gas. It is quite a problem to contain it: helium seeps through containers which safely hold any other gas.

The importance of this new process cannot be overestimated. At this stage for each cubic metre of helium obtained worldwide more than 20 cubic metres "go out the chimney" without bringing any benefit. This is precisely what happens in the combustion of natural gas in furnaces. The trouble is that helium slips from the atmosphere. It is inert and not subject to chemical binding; being light, it freely escapes into outer space.

Of course, helium is constantly born inside the earth: its source on our planet is radioactive elements. However, the process is very slow and new portions of helium are immediately dispersed in the surrounding rocks.

The reserves of Element Number Two on earth are estimated at 5 by 10^{14} cubic metres. Meanwhile, since our planet came into being, dozens of times more of it has been formed. A substantial part of the gas has long left the earth.

Apparently, the only answer is to extract it from all natural gases which are being obtained and to store it, irrespective of present requirements.

HELIUM THE GEOLOGIST

Back in 1912 the renowned Russian scientist Vladimir Vernadsky noticed inexplicable gas emissions from the depths of our planet – a phenomenon which has come to be known as the gas breathing of the earth. Academician Vernadsky thought that by studying streams of deep-seated helium it would be possible to locate radioactive ores and to pinpoint crustal fractures. The practical implementation of these ideas was then impossible due to the imperfection of available instruments and research methods.

Researchers resorted to all sorts of experimental refinements in order to register the helium flow. However, it escaped all traps, filtering through all obstacles. Then it was decided to search for helium dissolved in underground waters. After all, below their water level all cracks, fissures and other cavities are filled with water and all abyssal gases, as they pass through the water barrier, are dissolved in it.

Not until Soviet experts finally created highly sensitive devices for water and helium photography could the Vernadsky programme be carried out. These devices – INGEM-l's – have no rivals anywhere in the world, so far.

Helium explorations have been conducted in different parts of the Soviet Union – in deserts, in the taiga, in the mountains of the Caucasus and Central Asia, on volcanoes in the Kuriles and Kamchatka. The total of samples has long topped the one million mark. A map has been compiled which reflects the helium flow inside earth and represents, as scientists put it, an X-ray picture of the Earth's crust with its impenetrable blocks and abyssal fractures between them. The intersections of fractures stand out particularly sharply on the map. Why is all this necessary?

Everybody has heard about gas-and-dust explosions in coal mines. Treacherous underground gases either fill the mine slowly, scarcely seeping in, or burst into it like a whirlwind. At depths of about 1,000 metres they become a calamity for miners – the reason why no mine more than three kilometres deep is in operation: ventilation techniques are powerless.

Gas and oil miners have their own troubles – encountering anomalously high pressure in the stratum. Within seconds the earth belches out pipes weighing several tonnes, powerful locks are smashed, gas-and-mud volcanoes erupt. Valuable raw materials burn up and nature suffers.

It is precisely helium photography that offers a picture of the earth's gas regime, making it possible to locate zones of active "gas breathing" and prevent its undesirable consequences. It is also important to know where to site large engineering structures such as atomic power stations, underground gas storage tanks and grounds for the burial of toxic industrial wastes. Helium photography alone rules out mistakes.

It aids in other jobs as well. It has long been known that diamond-bearing kimberlite pipes and beds of complex ores are usually found where there are tectonic fractures, their intersections and nodes. Oil or gas, on the contrary, require a hermetic "container" located far from crustal fractures. It is precisely helium which will show where to prospect for a deposit, build an electric power station or beware of earthquakes. ⑤

Soviet Lithuania being a small republic (in terms of surface area and population it is comparable to Ireland), even top-ranking industrial executives maintain direct contacts with factory-floor workers.

THE BENEFITS OF PERSONAL CONTACT

by Iosif LESHEVSKY, Romualdas MOTZKUS

condensed from the newspaper SOTSIALISTICHESKAYA INDUSTRIA

Photos by Andronyus ULOZEVIČIUS

The visit to a knitted goods factory in Utena took Jonas Ramanauskas, the Minister of Light Industry of the Lithuanian Republic, half a day: he talked with many workers, foremen and engineers (let alone factory executives, of course). The Minister knew all his interlocutors both by sight and by name. They in turn spoke with Ramanauskas as they would with an old friend. When they disagreed they argued. They reacted to jokes, smiled, exchanged remarks. The Minister's grass-roots approach obviously appealed to the workers. At any rate, they seemed to take it for granted.

Ramanauskas has an intimate knowledge of all stages of production. At one time he worked as a finisher in a factory of woollen fabrics. On graduating from a college, he went to work as an engineer in the same factory. Then he was made a shop superintendent and subsequently factory manager. Apparently, it is precisely for this reason that his meetings with workers of the enterprises, while remaining official in essence, are business

Minister of Light Industry Jonas Ramanauskas with specialists of the Kaunas shoe factory. The minister feels that the new model needs more work done on it.



conversations of equally competent colleagues.

BUSINESS DISCUSSION CLUB IN THE MINISTRY

The fact that Ramanauskas is personally known to many workers in his industry is the result of more than just trips to factories. More often that not, workers, engineers, foremen, pattern designers come to see him in the ministry in order to discuss various questions. For example, which enterprise is in line for reconstruction or how to distribute a bonus won by the light industry for good performance.

At times members of some trade, for instance, equipment adjusters, are invited. The aim is to enable them to exchange experience and sort out strong and weak points in each other's work. The Minister, who as a rule attends such conferences, guides

The people who work with Aldona Ringaitite invariably note that this woman has all the qualities of a high-ranking executive.



the discussion in the light of the tasks facing his branch of industry.

Such meetings are always attended by researchers and design engineers. Their contribution to the discussion helps strengthen business and personal contacts between practical workers and scientists and shortens the development period of new types of product.

For instance, associates of the research institute of the textile industry and engineers of the knitted goods enterprise *Mastis* worked independently for some time on the manufacturing process of new types of velveteen fabrics. Later they met in the ministry, evaluated each other's results and were able to promptly eradicate whatever problems they faced. Their subsequent joint work made it possible for the enterprise to launch the manufacture of the fabric much sooner than had been anticipated. The industry as a whole thus saved 190,000 roubles.*

Recently the ministry called together the republic's textile designers. They spent the morning listening to lectures by experts of the republican Fashion House and Textile Institute and in the afternoon expressed their own ideas. After listening to and discussing the suggestions the Minister recommended many of them for practical development.

Obviously, to workers in light industry personal meetings with their Minister offer an excellent chance to display their potential. However, most of them associate their chances of promotion above all with successes in the workplace.

WHO SHOULD BE MADE MANAGER?

When an enterprise of Lithuania's light industry has a management vacancy, as a rule it is filled by someone whose right to hold the job is not questioned by anyone. Each factory has a constantly renewed reserve of future executives. For example, a reserve of candidates for the manager's job. A certification board (representatives of industrial executives and public bodies) selects the most promising engineers, describes their qualifications in detail and circulates the list to the shop superintendents and the chiefs of other factory utilities, services and departments. These in turn make their

* According to the current exchange rate, one rouble is worth approximately U.S. $1.30. – *Ed.*

own remarks and give points to each candidate for competence, enterprise and ability to get along with people. The candidate who draws the top number of points is proposed by the certification board for endorsement by the ministry.

Equally careful attention is paid to the reserve of candidates for the jobs of chief engineers, deputy managers and chief economists. When the reserve is formed the candidates attend a study course compiled by the ministry and an institute of advanced training.

Aldona Ringaitite, deputy manager of the design bureau *Pūntukas,* is one of 74 workers who have taken such a training course since 1975.

"I was put on the reserve list when I was in charge of the planning department of a silk factory," said this attractive young woman. "We studied for four years in several stages. Initially, for nine months, at home, while continuing to work. Then we pursued theoretical studies at an institute of advanced training – another two months. Next, came a traineeship period in allied enterprises as executives of a higher rank – yet another month. Finally, the whole process was reenacted, only at a higher level."

The programme also provides for independent research. Aldona has studied problems connected with the effective use of the fixed assets and of the utilization of an automated control system in schedule planning of plant operations. In the course of this she made an analysis of the functioning of her enterprise which would simply have been impossible in the course of day-to-day work.

"The problems had long become ripe and, naturally, many people had given thought to them," Aldona explained. "But I had the time to detach myself from my work schedules, to think calmly and seek the advice of engineers of other enterprises and associates of research institutions. I looked at the production, so to speak, from the sidelines."

"We associate the present and future successes of our light industry with the greatest possible competence of each and every worker," said Minister Ramanauskas. "And also with an awareness of personal responsibility for the situation, which in many of our workers is no less developed than in me."

The Minister can well be believed: for many years the light industry enterprises of Lithuania have been more efficient than those of other Soviet republics. Ⓢ

The human brain would scarcely have become the miraculous handiwork of nature man knows it to be if not for its important helpmate.

ODE TO THE NOSE

by Karl LEVITIN

from the magazine ZNANIYE – SILA

An Essay in Popular Presentation of the Purely Medical Book "Reflex Influences of the Upper Respiratory Tracts" by Victor BUKOV and Rafail FELBERBAUM

I have long been indignant at what I consider a frivolous, if not downright disrespectful attitude to the nose, especially someone else's. One hears: "He's got his nose in the air," "He turns up his nose at . . ." "I pushed his nose into it," "Don't poke your nose into other people's business." Even schoolchildren are taught that the nose is a minor organ because it provides man with only one per cent of his information about the surrounding world. I was overjoyed when I read in the aforementioned book: "The upper respiratory tracts (of which the nose is the beginning) play a far greater role in the life activity of animal and human organisms than has hitherto been believed."

Although I had to struggle through the scientific language thickly interspersed with Latin terminology, I read the book from cover to cover, spurred by the fact that the edition was in a mere 2 017 copies. It meant I would join the extremely narrow circle of physiologists and therapists for whom it was intended. Now I invite all nose-owners to read my presentation of the book.

PRIME MINISTER OF THE HUMAN BODY

A few excerpts:

"When the surgeon's scalpel

cuts the nasal septum cardiac arrest sometimes follows."

"An experienced athlete suddenly, without any apparent reason, dies during a competition. Later, it is found that he had a cold."

"Doing hard physical work, a person wittingly or unwittingly begins to breathe quickly through the nose. Shortly, he finds the work easier."

Similar facts are numerous. Let us try to see the general mechanism behind them, as Bukov and Felberbaum do in their book.

Frankly speaking, previously I had assumed that the blood circulation in my head, as in the rest of my body, was the responsibility of my heart. I have now discovered that my nose lends a hand.

Back in 1926 the Soviet otolaringologist Mikhail Tsitovich for the first time in world medical experience observed that normal nasal breathing stimulates the outflow of venous blood from the cranial cavity. Other Soviet researchers experimentally demonstrated the dependence of blood and lymph circulation in the brain on nasal breathing. The accuracy of the process is ensured by a specific mechanism: at any moment more inhaled air passes through one nostril, less through the other. After a while the two halves of the nose exchange roles. This unorthodox pump creates a constant pressure differential within the cranium.

Subsequent scientific observations and experiments demonstrated the nose's ability to control perhaps all vital bodily systems. The air current, touching the receptors which dot practically the entire mucous membrane of the nose, provokes the most unexpected effects.

For instance: a patient inserts a wad of gauze or cotton wool into his nostrils and proceeds to breathe only through his mouth. This simple action reduces the oxygen content in the blood and increases the amount of carbon dioxide. However, blocking the nose in itself has a strong irritant effect on the body, creating a jump in blood pressure and a drop in the intraocular pressure, which leads to stagnation in the vascular system of the eyes.

When the nose is stopped up there is an immediate change in the acidity of the gastric juice, a drop in the bile discharge, and a deterioration in the functioning of the liver and kidneys. Even the teeth decay faster in individuals

who breathe poorly through the nose! The haemoglobin content in the blood drops as well, but luckily, as soon as nasal breathing is restored returns to normal.

The heart also reveals a dependence of the nose – so great that cardiac arrest due to rough handling of this organ (some blows on the nose have been fatal) can follow. But then, anyone can become convinced from his own experience that his pulse beat changes as soon as an otolaringologist puts his instruments into the nose. The reason is not fear of the ordinary nostril dilator.

Breathing. The brain centre which controls it and the nasal receptors maintain permanent communication. An alien substance which enters the nose provokes an instantaneous but brief respiratory standstill, known as apnea – nature's mechanism which protects the lungs from an unsuitable atmosphere.

A GUARD OF OUR HEALTH

"The nose? A guard?" I can anticipate immediate objections. "And what organ ails far more frequently than the others? What organ torments us with colds?"

This is true and colds are most familiar to children and parents. A stopped-up nose, a restless child who tosses about in his sleep, opening his mouth because he cannot breathe otherwise – who has not seen such a scene? And outdoors polluted cold air is inhaled, unwarmed in the labyrinth of narrow winding nasal passages around which hot blood flows, not cleared of bacteria by special substances which are secreted in the nasal mucus, and that air gets into the throat, larynx, trachea, bronchi, and the whole family hears words like "laringitis," "pharyngitis," "tracheitis", "bronchitis."

And the child changes almost before the parents' very eyes: his teeth begin to grow irregularly, his chest becomes deformed. His mouth being constantly open, his lower jaw hangs loose and the lovely child's face is transformed into the typical adenoidal mask. Children's colds bring even worse results. Because the blood cannot flow from the brain unobstructed headaches set in. Chronic colds make a child's attention wander, his memory uncertain, his hearing weakened and he will lose all sense of smell. If parents neglect a baby's cold in the first days of his life the poor mite faces a terrible difficulty in sucking, remains undernou-

rished, and consequently cannot develop properly at the most vital time of his life.

Nevertheless, it is not the nose which is responsible for these troubles, but the carelessness or medical ignorance of parents.

Why should nature have created colds? The authors ask. Let us look at the incipient head cold.

As soon as the feet get wet there is a tickling in the nose. It is the result of an increase of the mucous membrane. Its cells react more intensively with the air stream which passes through the nose. Thus becoming excited, they convey warning signals to the brain, compelling it to interfere. Sniffles are not an illness, therefore, but a pre-illness, the body's adaptive reaction to cold.

The nose delicately warns its owner that some parts of his body have become chilled and that appropriate measures should be taken. However, the man lightheartedly shrugs off the warning: after all, there is no pain and no headache. There is even the joke that a treated cold passes in three weeks while an untreated one lasts 21 days.

Sniffles are "invented" by nature in order to forestall the common cold and excite the body against chilling. And if this line of defence fails the next one goes into play: the man runs a temperature. However, it is better to prevent things from getting that far.

The most vital centre of the body – the brain – is also protected from "breakdowns" by the nose. True, in the case of excessive and sharp mental or physical pain (irritation) the brain protects itself: the man loses consciousness, or faints. However, the cost of a faint is too high: the victim is completely helpless and can harm himself when falling. This is why nature has invented a mechanism which protects man from fainting as well – tears. As they roll into the nasal cavity, they irritate the nasal receptors (this is why they are salt), immediately sending to the higher sections of the brain a succession of impulses that create a new focus of excitement there which competes with the dangerous one. What takes place is identical to what happens when vapours of ammonia are inhaled, used in order to calm a person in the event of a violent shock – but completely automatically.

To return to children: they frequently cry but their nasolacri-

mal canals are not developed yet. This is why their tears roll down their cheeks. However, nature is not conspiring against the child: luckily, before his psychology has developed it is not so easy to traumatize his brain.

It does not follow, of course, that adult tears ward off all troubles and pains.

Thus, the human nose merits the deepest possible respect and careful handling. Few organs perform so many important functions – respiratory, protective, olfactory (helping man distinguish up to 10,000 smells), resonator (lending his voice sonority and individual colouring). The nose's fifth function is reflex formation.

Although this function has been known long enough a great deal remains to be studied in this sphere. Research will no doubt yield major rewards. First, new methods of treatment will be discovered. Second, "if our concepts about the nose's additional function are correct," say the authors, "the degree of its development can be related to the degree of formation of the second signalling system – a factor which can be of importance in determining the level of development of man's remote ancestors."

ADVICE TO NOSE-OWNERS

Always strive to breathe through the nose. Especially if you are excited or upset.

If your nose has developed a boil don't try to squeeze it out. This can spread pus-producing microbes along the blood vessels into the head cavity, inviting complications.

Correct blowing of the nose is to use each nostril in turn, closing the other so that the nasal mucus does not get into the auditory tube and the middle ear. This prevents its inflammation.

In the case of a head cold avoid doing heavy work or taking part in sport competitions.

SOVIET MEDICAL NEWS

REMEDY FOR HYPERTENSION

One of the key reasons for hypertension is the overactive behaviour of the enzyme which regulates blood pressure. "On the rampage," it begins to turn out an excess of a vasoconstrictive substance while destroying the vasodilative one. As a result, the pressure rises.

Although present-day medicine knows many anti-hypertonic remedies, it was vital to discover a substance capable of offsetting the action of precisely the vasoconstrictive enzyme. Such a preparation was first isolated by American scientists from the venom of a Brazilian snake.

Soviet researchers have developed a more productive new method of synthesizing such a substance. Obtained artificially, the preparation is as effective as its American counterpart.

From the newspaper TRUD

MAGNET SPOTS TUMOUR

Medics of Latvia have proposed their own technique of diagnosing brain tumours by using a locally directed static field. This makes it possible to disclose a tumour, an abscess or commissures in their early stages and to distinguish them from vascular disturbances. The medics do it by employing a structure for ordinary electroencephalography extended by two magnets, which are placed on the patient's temporal regions. By inducing a magnetic field of the necessary tension, they intensify the cerebral circulation. In the presence of vascular disturbances the pathological changes of the rhythm of oscillations of biopotentials on the electroencephalogram (EEG) soon decrease or even disappear. If the patient has a brain tumour, abscess or commissures, the pathological rhythms on the EEG persist and remain stable throughout the examination or even grow stronger, clearly pointing to the character of the pathology and the location of its focus.

From the magazine NAUKA I TEKHNIKA

A NEW METHOD IN TRAUMATOLOGY

Associates of the Central Institute of Traumatology and Orthopaedics in Moscow have devised an original method of autoplasty. Now they replace skin, hypodermic tissue and bone by a transplant with a vascular limb. This makes it possible to preserve the blood vessels in the transplant. By using a special microscope and miniature microsurgical instruments, surgeons can connect the transplant's arteries and veins to the vascular bed of its new place.

This novel method markedly speeds the knitting of fractures, the healing of ulcers and the stretching of bones. The treatment period is cut to one-third or even one-fourth.

From the magazine ZDOROVYE

CONCENTRATED SUNLIGHT

At the Black Sea resort of Sochi diseases of the bone and muscle and peripheral nervous systems, skin, ear and throat have begun to be treated by concentrated sunlight. This is being done with the aid of special helioreflectors of continuous and impulse functioning. A solar reflector designed by Buchmann represents a frame-screen with more than 200 mirrors mounted on it at certain angles. Reflected rays at a distance of three metres from the screen become focussed and are directed at the patient's cabin. The radiation intensity of the "playing" sun beam is 20 times greater than that of a direct sunray.

From MEDITSINSKAYA GAZETA

The ability to appraise one's actions self-critically is an asset for anyone. But it is especially useful when adults are dealing with children. And it is essential for parents – every hour, every minute of the day.

NOTES OF A 'REPENTANT WITCH'

by Anna MASS

Excerpts from the book WHAT DO MERMAIDS EAT?

Our brand new block of flats in a town near Moscow stands amid firs and pines and there is a meadow in front overgrown with plumes of sorrel, dandelions and buttercups. In the middle of it there is a children's playground with little log cabins, swings and long, painted benches . . .

Today Mitya and I moved into our new home without waiting for Alexei's return from an expedition. Our new neighbour is hammering away in Mitya's room, putting up shelves. His wife and I are drinking tea in the kitchen. Mitya has settled beside us. He is quiet as he peers out the window at the tops of pine trees that sway gently in the dusk at the level of our third floor flat.

Mitya is five. He is thin, with dark, serious eyes and ash-blond hair. His fair eyebrows are drawn together. His lower lip sticks out. His gaze is concentrated.

"Well, Mitya, time for bed," the neighbour remarks. "Tomorrow you'll be able to go to the forest with your mother and see the squirrels. They're very tame here, the kids hand-feed them."

"And the wolves?" asks Mitya. "Are they tame too?"

"The wolves have run far away, sweet, don't be afraid."

The neighbours leave and I put Mitya to bed in his new, "adult" full-size bed. His old baby cot will await its new occupant who is expected soon."

"Don't go, Mum. Let's talk."

"All right. What about?"

"Mum! Does a wolf find a man tasty to eat? If he meets a wolf in the forest who will run away first?"

"I don't know."

"And if the wolf doesn't run away first, what does the man do?"

"Well... I suppose climb a tree."

Silence. Is he asleep? I get up noiselessly.

"Mum! Don't go. What if the tree has no branches? And if that man is a little boy?"

But I do go – to wash the dishes.

Some 10 minutes later I look in. He is asleep. His cheeks are wet with tears. He found it scary to fall asleep all alone in a new place. His granny would have understood and comforted him. But granny is now far away and I have no time for his childish fears.

"Go outside and play with the kids."

"No. What if they don't accept me?"

"If they don't you can come back in."

Reluctantly he goes downstairs and stops by the entrance. I watch from the window. Tots are playing with a ball. A boy of about eight seems to be in charge. Seeing Mitya, the boy beckons him over. Mitya does not budge. The boy comes over, takes him by the hand, puts him beside himself and throws the ball to him...

Half an hour later Mitya bursts into the flat, flushed, sweaty, happy.

"Mum, give me a hanky! I just want to wipe my nose and go back. They've accepted me! Yurik himself accepted me!"

So now Mitya has his own gang. The chief is Yurik. For Mitya he is the ultimate authority. Whatever "Yurik himself" does or says is fine and not subject to discussion.

Coming back from shopping, I open the door. Mitya is sitting on the floor in front of the bathroom, sopping wet, holding the shower hose out of which water is gushing. I can't remember what I shouted, but I do remember that my voice rose to a shriek. Mitya sobbed, the neighbours from down below came running, the water was coming through their ceiling...

Through joint efforts the flood was liquidated. The neighbours were understanding, even

humorous about the incident. Looking at the tear-stained boy with pity, the second-floor neighbour said, "Never mind, these things happen. He got to playing."

The next day she found out the details from the children. It seems that five-year-old Lyoshka came to visit and suggested that they create a sea. Then this Lyoshka looked out and saw me coming and fled. Mitya had to answer for the consequences. He could have placed part of the blame on his chum, but didn't wish to. Or perhaps it didn't occur to him?

"Mum, how long until a man is forgiven?"

"Until a man understands how badly he has behaved."

"But I understand already! I won't do it for a whole year!"

A present from his grandfather – a bicycle with a headlight, a saddle-bag, hand-brakes, and coloured bits of glass in the pedals. Mitya is ecstatic! All the kids ride the bicycle, all except Mitya. The headlight is already dangling on a wire, the bits of glass have fallen out. I don't like it one bit. But Mitya is delighted. He is proud that "Yurik himself" rides his bicycle.

"By the way, Lyoshka doesn't let anyone ride his bike," I observe.

"So what? Nobody asks him for it. Everyone rides mine. Everyone wants to."

"And they're going to break it completely."

"Never mind! Grandfather will buy me a water pistol!"

This is too much.

"That's the trouble with you, easy come, easy go! A consumer! If I again see two people riding that bike I'm going to take it away from you!"

Even at that moment I am aware that he is right and I am wrong. If only because he is kinder and more generous. But I resort to my power and authority to instil in him – what?! Just what I don't like in people – meanness!

In a crushed voice he asks, "What is a consumer?"

The middle of August. A warm, sunny day.

"Mitya, what if you and I go for a walk in the forest?"

"Let's! Other kids go with their mums and we never have. May I take the machine with me? Lyuda gave it to me to play with."

It's a tiny machine, red with a yellow extension ladder.

"Mind you don't lose it."

A russet squirrel with a white chest is sitting on the path, gazing

at us fearlessly. Acorns are scattered under an oak tree and Mitya wants to know why they fall. I explain that acorns are seeds and in spring each of them will put out a tiny shoot out of which a big oak will grow. Mitya at once begins to pick up the acorns on the path.

"The soil is loose over here," he mutters, "and here. Oh, look at this acorn. It's smiling . . ."

I think smugly: what a good lesson contact with nature provides. How good such strolls are for the child. I have in mind that I am giving him the lesson, whereas he is giving me a lesson in kindness, solicitude, concern for everything living. At the age of five he is closer to nature than I am. The acorn smiles at him, not me.

"Mum! Look at the pretty snail! What do snails eat? Look at its nice face! Are snails useful? Is a tree wooden? Does it hurt a flower when you pick it? Are fools bad people or simply stupid?"

I am weary of his questions. I want peace and silence, a chance to relax. More and more often and with mounting irritation I reply: "I don't know!"

"By the way, Mitya, where is the machine?"

He looks at his hands, looks underfoot. He raises frightened eyes. Just a second ago everything was fine. He was a Person. Now he is a miserable creature, cowed by fear. He himself is shaken by the loss and can't understand how it happened. He didn't mean to. And I, who enjoy talking about bringing up children "according to Spock," yell at him, a defenceless boy who cannot speak up for himself. Ah, but I am bringing him up, teaching him order.

His eyes are brimming with tears. He turns around and trudges back into the forest, stumbling in grief and fear.

"Maybe you put it in your pocket?"

He puts his hand into his pocket and brings out the machine. There is no joy, merely incomprehension. His lips and chin are trembling.

"Why didn't you remember before?" I ask in the tone of a repentant witch.

"I would have remembered," he whispers. "But I forgot because I was so scared."

Our best moments together come when we play "little blue house." Mitya and I sit down on the sofa and pull my fluffy blue shawl right over our heads. Mitya knows that if I have agreed to sit with him in the "house" it means that I'm not in a hurry to go some-

where, I'm in a good mood and might read to him or simply chat.

"I'm sorry for the ugly duckling, everybody beats him and drives him away. I'm going out to the kitchen and by the time I come back you'll be reading about how the duckling turned into a swan and that's the part I like . . ."

He doesn't like Andersen's *The Ugly Duckling* because there are "incidents" in it. He likes the book about the postman. It's boring, but there are no incidents in it. He likes to hear only "nice" stories.

Why is that? Are my outbursts of temper responsible? He is absent-minded, sluggish, loses things, is poor eater, finds it hard to fall asleep. But why yell at him? Do I want to raise a friend or a foe? Or maybe a sly one, who in fear of punishment learns to lie?

If one gets down to it, of what is he guilty? He is a thinker, while I train him like a little dog, frightening off his thought. Perhaps it is my lack of control, ups and downs in mood, that he terms "incidents" and is afraid of.

Breakfast.

"Mitya, your table manners are disgusting. You've dropped the bread and spilled your egg. You're certainly not well brought up."

"Being well brought up isn't that at all! It means, for example, that there is an old lady standing at the bus stop. A bus comes but she can't manage to climb inside. Then a well brought up man goes and helps her."

Some six months before the three of us were walking down the street. Mitya, delighted that he was out with both mum and dad, wanted us to swing him. So, holding him by either hand, Alexei and I swung him while he "flew" over the pavement, feet tucked in. When we were passing the bus stop, there was an old lady with a cane making fruitless efforts to get in the bus. Alexei let go of Mitya and helped the old lady. That was all. But Mitya remembered. All my admonitions and howls go in one ear and out the other.

"Daddy's home!!!"

The sheer joy, the flood of questions, is impossible to describe. Dad's rucksack, dad's shirts smelling of camp-fires, dad's Very pistol, dad himself – tanned, merry, energetic. For a long time Mitya's life is filled with fresh, delightful impressions. Now he looks forward to the evening.

"Dad! Do you know what mermaids eat? They eat fish! But how do they eat it? Dad, what is time? Why does it run on and on?"

And in reply he is never told

"stop pestering" or "let me relax." Alexei was born and raised in a village. His father is a bookkeeper, his mother a schoolteacher. Alexei was the eldest of five children. And never, according to him, were there any scenes or lectures. I can scarcely believe it: how could it be so? What if the children disobeyed. How were they punished?

"We weren't punished. I remember once I went skiing in the forest with chums – we were around 11 then. Well, we didn't notice the time go by and when I got home it was after midnight. Mother was crying. Father was out looking for us. My mother's tears and my father's eyes when he got home were the sole punishment, but I'll never forget it."

For several years Alexei and I worked together in one geological party. There we met and there we married. I of all people know how easy it is to work with him, the kind of businesslike and cordial atmosphere he is able to create in his team. And he must have learned it in his family!

"Dad! What is a soul?"

"How can I explain . . . It's a feeling. Pity, joy, compassion. About a good man it is said: he is a kind soul. About an evil man: he is soulless."

"Is there more good or evil in the world?"

"Good, I think. But there is evil too."

"Why is that? Man has invented so much! Why hasn't he invented something that will put a stop to evil? And if an evil man attacks a good man, who will win?"

"Whoever is stronger."

"If an evil man is fed sugar, will he become good? No? What is to be done then?!"

In a week Mitya will be starting school. But when I remind him of this, he tries to change the subject. He is afraid of school. Have I instilled this fear with my constant carping:

"How are you going to learn in school when you forget everything, lose everything, never finish anything! I just can't imagine what's going to happen . . ."

At once his face looks scared.

Deep in my heart I hope that he won't find it hard in school. So what if he's sluggish and absent-minded? Teachers know how to approach different children.

And so the first day at school.

"Mitya, how was it? Very hard?"

"Not hard at all. The teacher points to letters and asks: what letter is this? As if I don't know! Then we wrote letters."

"A lot of them?"

"Lots. Well, I forgot one. Too bad, she might think I don't know it."

Every day I check to see that he's taken all the text-books and exercise-books and nevertheless he always forgets something. He can't remember the homework assigned, he doesn't know the time-table. "Hurry up!!!" These words have become the mainstay of our conversation. Hurry up and eat, hurry up and do your lessons, hurry up and wash! Apparently, it's the same story in school. He lags behind, can't keep up, and the teacher says "hurry up!" But Mitya manages to ignore it. One moment he is spellbound by a fly crawling over the window, the next, washing his hands, he is transfixed by the stream of water coming from the tap. What is he thinking about? Perhaps very important, the most important work in his life takes place in such moments – the work of the soul?

But a note from the teacher says: "Very slow at his lessons and consequently cannot do even half of what is assigned."

I am summoned to the school.

"Smolnikov . . . Well, he just can't keep up. There he is, finishing work that should have been completed during the lesson. Everyone else managed to finish, not he. He simply sleeps during lessons. He is utterly unable to listen, I don't know what to do with him!"

I feel hurt, I want to say that Mitya is kind, inquisitive, emotional . . . But I remain silent, steeped in the awareness, as is Mitya, that he is the slowest pupil in class.

Walking down the street, I bawl my eyes out. What could be done? Is only Alexei would hurry up and return from the expedition. He would know how to talk to the teacher, whereas the very thought of being summoned to the school again gives me the shivers.

As for Mitya, he is true to himself: if I didn't remind him, he'd go off to school in his slippers and he keeps forgetting his satchel in school. As for the rows I create, he accepts them as an inevitable part of the day, not as retribution for misbehaviour. And he tries to get away from them by losing himself in a game, in daydreaming. There he is free, happy, clever. He can spend hours producing fantastic drawings of other worlds. When taken away by force from these games, he is irritable, rude, bursts into tears.

Alexei is back at last. I try to look at our current life through his eyes and am horrified: an

overwrought, weary boy who hangs on to the door jamb every morning and pleads to be allowed not to go to school; my sitting with him over his homework, yelling, "Pay attention!" "Hurry up!" His sobs, my sobs . . .

"Leave him alone. Let him study as best he can. He's quite capable. Let him busy himself with what he enjoys."

"But then he won't keep up at all!"

"Being slow is not a vice, it's an inborn trait."

"That's what you think. As far as the school is concerned, it's a vice."

"Don't worry about his progress. Mitya!" Alexei calls.

And when they make something together, Mitya's sluggishness vanishes. Alexei never says "hurry up" to him. On the contrary, "Don't rush! Otherwise you'll ruin it." The sullenness in Mitya's face is erased, he is absorbed and what he is doing comes out right.

And I begin to hope that everything will be fine.

His first top mark – a five! For telling a story about a picture. The evening before he and his dad had studied the picture for a long time, projecting all sorts of fancies.

"I told everything: about the autumn and the boy and the girl – everything! The teacher said, you see children, how well Mitya told the story. None of you told a story like that!"

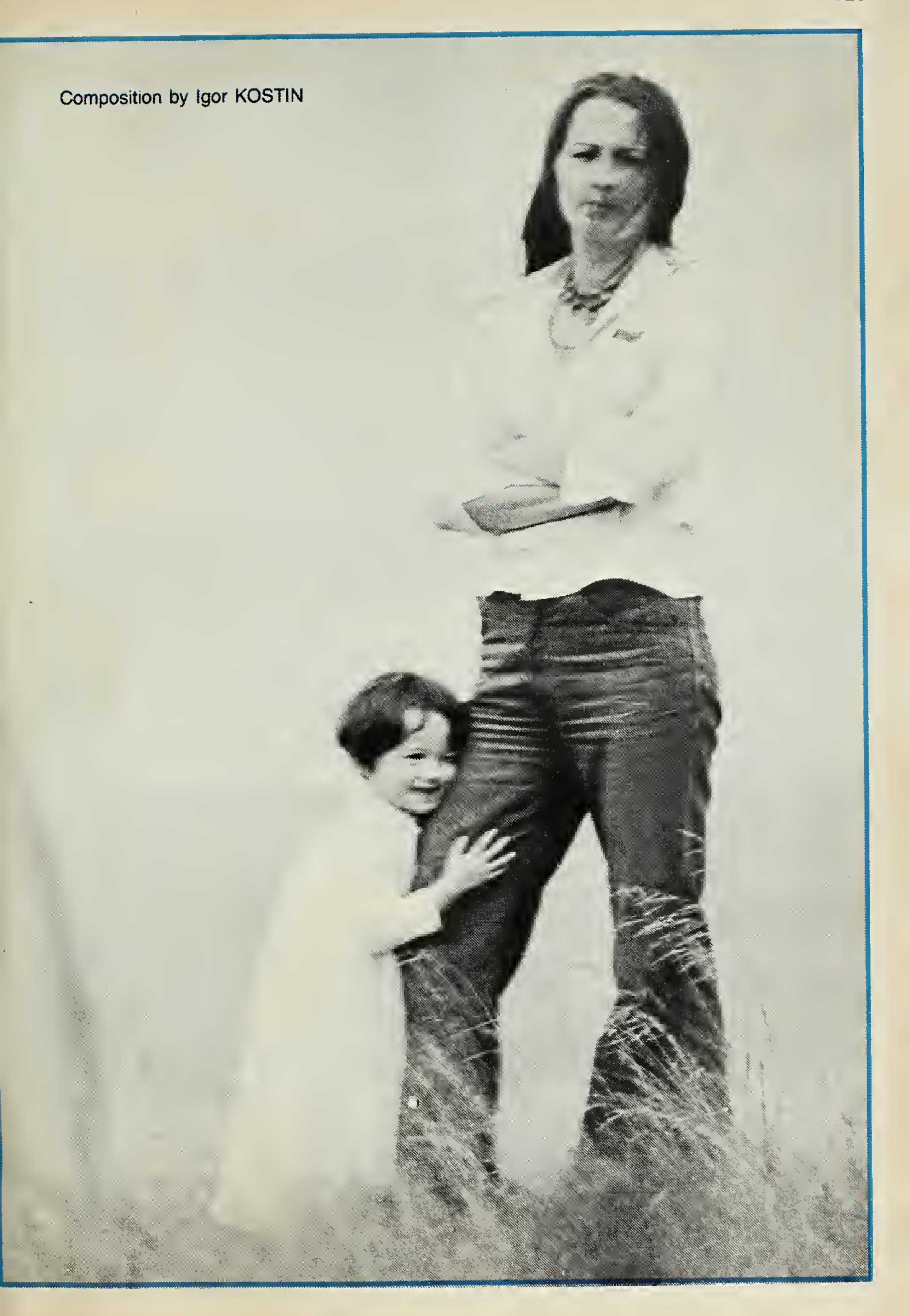
What a little praise can accomplish! For several days now Mitya has been coming home from school beaming. It might also have helped that Alexei visited the school and had a talk with the teacher. Without my tenseness, without my hostility, but calmly, in a man's way, that he is so good at. Something has changed in her attitude to Mitya. He no longer hangs on to the door jamb in the mornings, begging not to go to school.

And he no longer goes about downcast in school. A note from the teacher says: "Misbehaved during recess." To be honest, I am delighted. At last my son is being rebuked for being normally mischievous, not for stupidity.

"Mum, let's sit in the 'little blue house.' We haven't done it for a long time. Oh, look, the house has grown too small, we can't both fit in."

Wrapped up, he sits down on the sofa and opens a book. He looks concentrated, his face seems older. It is the face of a person who does not find life easy. At this moment I feel like saying to him: don't give in! And forgive me if you can.

Translated by Monica WHYTE


Composition by Igor KOSTIN

OTTO DRESSLER AGAINST WAR

by Sergei MASLOV

condensed from the newspaper
KOMSOMOLSKAYA PRAVDA

Photos by Felix SOLOVYEV



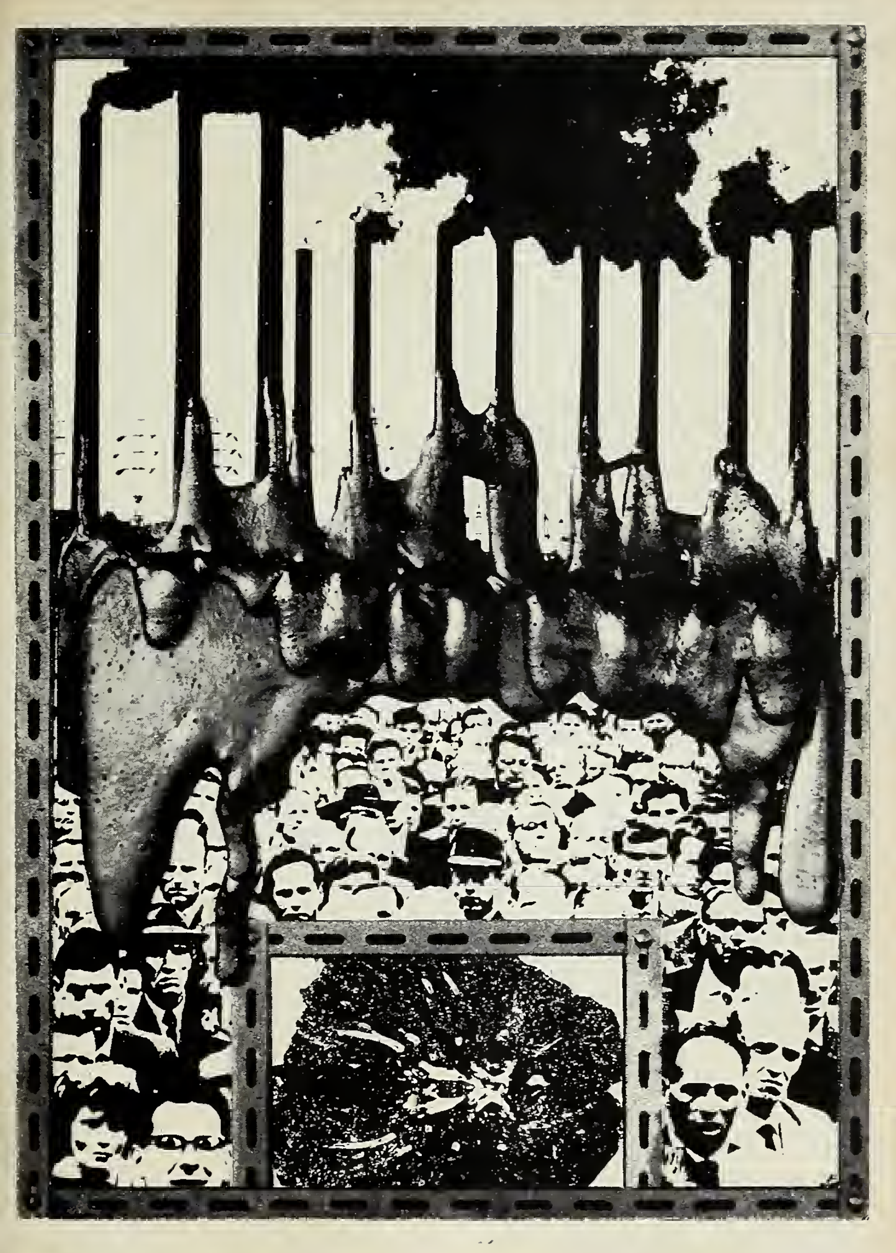
"If people had known they would never have started it again." These words belonging to the German artist Otto Diks, who survived the trenches of World War I, ring like an invocation in the compositions by the well-known West German artist Otto DRESSLER. The exhibition of his works recently held in Moscow produced a profound impression on the public.

Otto Dressler uses real objects in many of his compositions. But the profoundness of his subject matter leaves no doubt that experimenting with form is not his primary goal.

"Experimenting has never been an end in itself for me," the artist says. "For instance, a real violin that features in one of my compositions has strings made of barbed wire. It symbolizes culture that has been trampled on."

The real objects in Dressler's works serve as documentary and material evidence supporting the public accusation which the artist considers it his duty to voice.

When he visited Buchenwald, the site of a nazi death camp, among many other grim exhibits, he was shown a mountain of



"Man in Danger."



"Footprints."

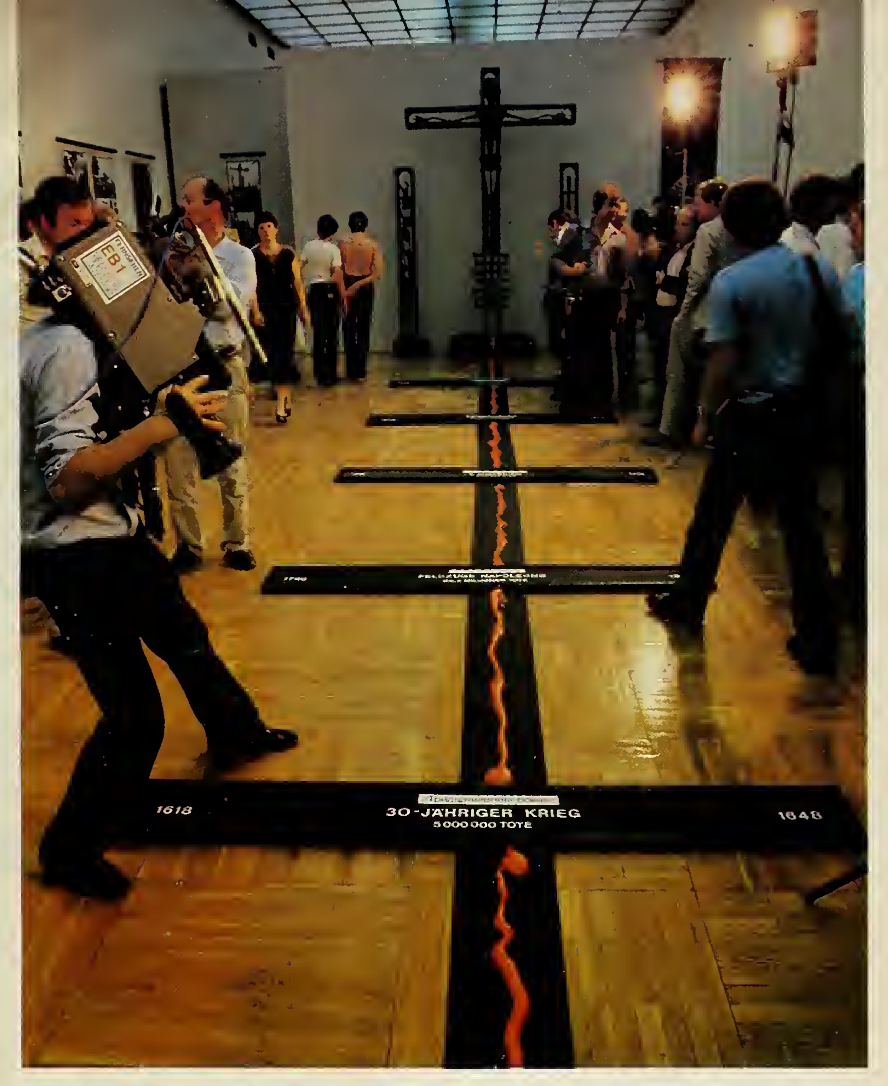
spectacle frames that once belonged to the camp victims. "For a long time the horrifying picture stood before my eyes," recalls the artist. Later, on a square in West Berlin he saw traces of the brutal dispersal of a protest demonstration by the police – splashes of blood, a crushed pair of glasses. The broken glasses revived another picture in his mind . . . These twin impressions found expression in one of his compositions called *Footprints.*

Otto Dressler wants to be understood. But how can an artist hear the voices of his spectators in the hush of an art gallery? There is a way out: He must go into the street, to a square, a park – any place where there are crowds of people. Otto Dressler does just that, and as a result, hundreds and thousands of people become participants in his "artistic actions."

Once an exhibition bearing the idyllic title *The Fruits of Gardening* was held in Munich. Next to it Otto Dressler arranged a "counter-exhibition" which he called *The Threat to the Environment.* The composition was very simple. A cheap plastic glass from which a plant, also plastic, sprouted. Then, suddenly, a thick black foam began to rise from the bottom of the glass. And the tender green leaves wilted, as if suffocated. The artist accompanied the show by passionate appeals to the public to protect everything living.

But his appeals are not sermons. He says he does not want to preach sermons to anybody. He does not like the word preacher, nor does he want to moralize. What he wants is to be understood.

"The purpose of my 'actions'," Dressler says, "is to heighten the impact on people and give them more than, I think, a picture can do. Besides, the immediate reaction of people is very important



"The Bloody Imprint of the Centuries."

to me... And finally, the ready, ingenuous response encourages the artist."

And the public response to Dressler's works is enthusiastic, indeed. One day I was a witness to it myself. It was in Vienna. Dressler's anti-war "action" *Last Victims of World War II* was being exhibited in a metro station. The "artistic object," as the author calls his compositions,



"Last Victims of World War II."

was usually dismantled for the night. I happened to be at that metro station late at night, after it had already been dismantled. I was truly amazed to see groups of people at the empty site. The discussion provoked by Dressler's work was still going on.

Reactions may be different, of course. The demonstration of the same composition, *Last Victims,* arranged in a department store window, also in Vienna, had to be halted. Some people were threatening to blow up the window if the show continued. I was told that those people were neo-nazis.

The artist's major theme is *Man in Danger*. Unemployment, the practice of "banned professions," destruction of the environment, revival of nazism, terrorism, are only some of the sources of danger to man in the capitalist world.



But the main danger, that jeopardizes life itself, is the threat of war.

At the end of World War II the 15-year-old Otto Dressler was deeply shocked by the sight of dead soldiers in the streets of his native town. Since then the thought of the horrors of war has dominated his mind. He wants them never to befall humanity again.

"I am a total optimist," he emphasizes the words. "The question is how to convey my feeling of optimism to people. The world is beautiful. But there are things that cast a shadow on the beautiful. My duty is to expose those things. How to get rid of them? The artist must call upon people to ponder over this problem."

Otto Dressler began his artistic career as a traditional sculptor, and has created 43 works in stone and bronze. "They were all anti-war in essence, the sculptures were warnings. But time passed, and the world was being drawn deeper and deeper into the arms race. I realized that I had achieved nothing by my sculptures. It was then that I made a decision to change my work. I began seeking other, more effective means of expression. New forms called for new material. I rejected stone and bronze altogether. The intrinsic value of these materials, independent of sculpture, did not suit me. They could ennoble what must be exposed. Later, I came to realize that I needed direct contact with the spectator."

Otto Dressler was in Moscow when his exhibition was held here. He said: "The number of visitors to my exhibition exceeded all expectations. In general, Soviet people's interest in art is amazing. As far as other typical traits of Soviet people are concerned, I would like to single out one in particular: they are admirably humane."

In recent years women have been breaking more of their own sports records than men have. Women have also gone in for types of sports which were once considered the exclusive domain of men. What is the attitude of physiologists to this?

WOMEN, SPORTS, STAMINA

by Skaidrite PLISMANE, world volleyball champion of 1960 and senior instructor at the Riga Polytechnical Institute, Pyotr OZOLIN, D.Sc. (Biology)

condensed from the magazine NAUKA I TEKHNIKA (Riga)

Photos by Vladimir SAFRONOV & Robert MAXIMOV

Woman is capable of catching up with man in many spheres of life, including sports. However, such attainments demand much greater efforts and pose a health hazard.

WOMEN'S STRENGTH. The man-woman differences in physiological potential, especially in strength, are so great that women since olden times have been called the weaker sex. On average, women are 10 to 15 centimetres shorter and 10 to 20 kilograms lighter than men. In other words, they have a smaller muscle mass and consequently less strength. Nor does the rather large reserve of fatty tissue – 2 to 3 kilograms above the male – favour major sport achievements. Among male athletes the active body mass – muscles, skeleton, and internal organs without the fatty tissue – is about 15 kilograms more than in sportswomen.

WOMEN'S STAMINA. It is said that women have more stamina than men. This observation is supported experimentally: women are capable of keeping their arm muscles in a state of



moderate tension (40 per cent of maximum strength) approximately one-third longer than men.

However, in sports, where the maximum exertion of all efforts and abilities is required, we find that the physiological mechanisms of endurance are less developed in women. Stamina above all depends on the activity of the enzymes which share in the synthesis of the key source of muscular energy, ATA (adenosine triphosphoric acid). The more ATA is formed at each given moment the more work can be performed by the muscles. Research has shown that in women the pertinent enzymes are less active than in men. It follows that their physiological endurance is smaller as well.

WOMEN'S HEARTS. At the foundation of the achievements recorded in those types of sport in which the results depend largely on endurance



(middle- and long-distance running, skiing, cycling) lies the heart's ability to pump blood, feeding oxygen to the active muscles. This ability has a lot to do with the heart volume. In men who neglect sports it averages 735 cubic centimetres, in women 580 – 79 per cent of that of a man. As a rule, intensive training sessions sharply increase the heart volume. The biggest hearts among sportsmen are to be found in water polo players (1,140 cubic centimetres), among sportswomen in cyclists (793 cubic centimetres) – only eight per cent more than in untrained men.



During top loads the heart of an untrained man can inject into the arteries 22.5 litres of blood a minute, that of a woman only 15.5. And no matter how long and hard a woman practises, the work capacity of her heart will never match that of a male athlete. Because with an identical heart pulse (the top number of cardiac contractions a minute in women is not greater than in men) the per minute amount of blood pumped in women is smaller. They have a smaller amount of blood in their bodies and moreover their blood contains a smaller amount of erythrocytes and haemoglobin. It all makes the functioning of a woman's heart less economical: to feed a litre of oxygen from the lungs to the working muscles a man requires eight litres of blood, a woman nine.

Thus, if a woman is to match the sports achievements of a man she has to exert much greater efforts and this

puts a greater strain on the physiological functions.

BONES AND JOINTS. Another major fact that cannot be ignored in planning training sessions of women athletes is the bone system. It is no secret that with the increase in the duration and intensity of training more and more sportsmen complain about pain in the joints. These pains, which, as a rule, are due to overloads and microtraumas, show that in its development the skeleton can lag behind muscle growth. In addition, the bones and joints suffer from frequent jumps, blows and jarring.

Skeletal development is directly dependent on the formation of musculature: the stronger it is the thicker and sturdier the bones. And because in women the muscles are much weaker than in men their skeletal system is weaker as well.

EXTRA FAT. The higher content of fatty tissue also prevents a woman from equalling male records in those types of sport which call for stamina. But perhaps this obstacle can be overcome by dieting and intensive training?

According to dieticians, overweight is a fairly widespread phenomenon. The best remedy for it is reduction of the share of sugar and fats in the diet and intensive physical exercises. Fat women frequently envy thin athletes of their sex. Prolonged strenuous training sessions effectively reduce bodyweight, diminishing the mass of fatty tissue. However, this does not always bring good results.

It has been discovered that for normal female physiological functioning the fatty tissue must comprise at least 22 per cent of the body mass. A smaller amount may lead to a variety of upsets and diseases. If in adolescent girls fat accounts for less than 17 per cent of the body mass, the functioning of their female organs may fail to set in. Many women long-distance runners have too little fat left in them – 7-8 per cent only. Not infrequently, they complain about various upsets.

Excess weight is harmful and must be combated. However, this should not lead to the other extreme: being too skinny is also harmful to women.

SPORTS AND PHYSICAL CULTURE are as vital to women as they are to men. Sports classes and training sessions exercise a positive effect on the blood circulation, respiration and nervous system. However, scientific data show that maximum and super-maximum loads during training sessions and competitions can injure the female organism sooner and more severely.



THE SLY FOX AND THE BEAR CUBS

Russian Folk Tale

Drawings by Yelena USKOVA

A she-bear lived in the dense forest. She had two sons. When the cubs grew older, they decided to go for a walk one day, but they got lost. For a long time they wandered among the forest trails. A day passed, another, but they couldn't find their way home. The poor little bear cubs grew weary and hungry. Side by side they plodded along despondently.

"Oh, I'm so hungry!" the younger complained to his brother.

"Just imagine what a tasty soup our mother would make for us right now!" the elder said with a sigh.

"Let's not talk about it," the younger said. "Let's think about something cheerful."

But for some reason they

couldn't think of anything cheerful. Eventually they came to a big road. Suddenly they saw a big round head of cheese. Somebody must have dropped it and not noticed the loss. The bear cubs wanted to divide it in half but did not know how. Moreover, the little ones grew greedy, each was afraid that the other would get a bigger piece.

While they were disputing, they failed to observe that a fox had come up behind them.

"What is all the fuss about?" he asked.

The cubs explained their predicament.



The fox's eyes glinted and he said in a honeyed voice:

"I'll help you, I'll divide the cheese fairly."

The cubs were delighted and they rolled the cheese closer to the fox and waited.

The fox broke the cheese in two. But it was obvious that the two pieces were unequal.

The cubs got worried: "Nobody must get a bigger share!"

The fox soothed them: "So be it. I'll fix it."

He nibbled at the cheese and licked his chops. The cheese was very tasty.

The piece that had been smaller was now the bigger one.

"They're still uneven!" the cubs complained.

"My, my, you're right," the fox said with feigned amazement. "But the situation can be rectified."

He bit off a chunk from the larger portion, making it smaller than the other.

"Uneven, uneven," the cubs cried, running around the cheese in consternation.

"Well, if you think so, I'll even them up," the fox said, scarcely able to speak because his mouth was stuffed with cheese.

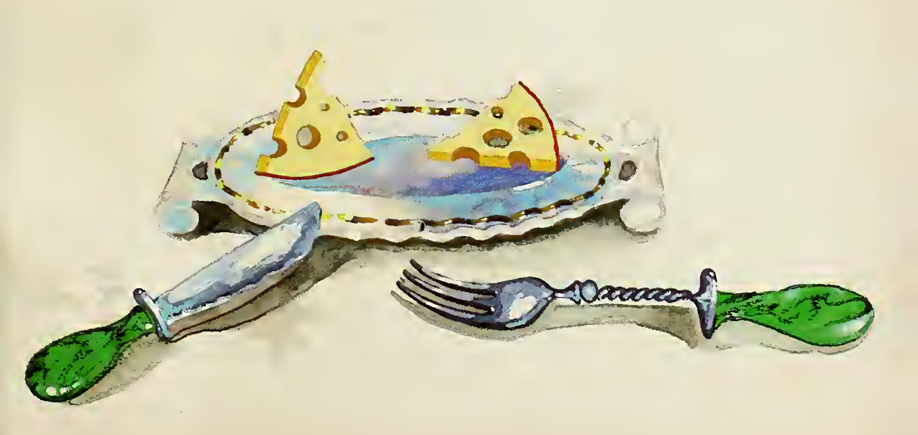
The fox continued to divide the cheese while the cubs shifted their black noses from the bigger piece to the smaller and from the smaller to the bigger.

At last the fox had had his fill of cheese. He left two tiny bits for the cubs.

"Enjoy your cheese, little ones! There may not be much left, but at least the pieces are even."

That is how the fox taught a lesson to the greedy bear cubs.

Retold by Victor VAZHDAYEV





Cookery

WHAT THE KAZAKHS EAT

from the magazine KRESTYANKA

Photos by Alexander USANOV & APN

There is an old Kazakh saying: "A rider eats on the road." Perhaps no other national cuisine in the USSR has been shaped to such a degree by the people's mode of life.

For centuries the Kazakhs drove their livestock from one pasture to another, never staying long in one place. Their whole life was spent in the saddle. In such conditions household utensils are bound to be simple and light and the food suitable for long journeys. No pots, no pans, no iron cauldrons. The herders took with them a sheep stomach bag which is ideal for keeping **airan** (sour milk diluted with water) in hot weather and another bag made of horsehide for cooked rice.

Horsemeat and mutton are the Kazakh favourites. The meat was boiled, smoked, salted or dried and sausage was made as well. The lungs, liver, brains, tongue and kidneys were also processed for food. All these products kept well and provided a hearty meal on the road.

The women, waiting in the tents for the return of their men, boiled up meat in wooden vats or leather sacks by dropping heated stones into the water. There were no soups in the Kazakh cuisine. They were not suitable for transport and iron pots did not appear among the Kazakhs until the 18th century.

• Milk – mare's, ewe's or camel's – was never drunk raw. This tradition survives to this day. Sour milk products are prepared in the main: *koumiss* (fermented mare's



milk), fast-maturing cheeses and dry milk concentrates – *kurt* and *sarsa* (whey boiled down over a low fire)..

At the turn of this century the Kazakhs gradually began to abandon their nomadic way of life and this affected their natio-

nal cookery. It became more varied and absorbed some of the culinary traditions of neighbouring peoples. After Kazakhstan became a part of the Russian empire, dishes made with wheat and rye and some vegetables (potatoes, carrots, cucumbers and radishes) appeared in the daily diet of former nomads. Contacts with the peoples of Central Asia introduced meat fried in oil, fruit and sweets. The Kazakhs became fond of pilaff and tea.

Any meal, and certainly a festive one, begins with *koumiss*. This is immediately followed by tea. In Central Asia both black and green tea is drunk. Kazakhs prefer strong black tea served with hot milk or cream, sugar and black pepper. Raisins, nuts, dried cottage cheeses and *baursaki* – fried rounds of rich pastry – are served with the tea.

As a rule, a traditional festive meal ends with beshbarmak (which in translation means "five fingers" – the nomads ate it with their hands).

For 1 1/2 kilos of meat (horsemeat or mutton, and today beef is used): 2 1/2 litres of water, 3 or 4 onions, 3 tablespoons parsley, 1 teaspoon black peppercorns, salt to taste.

For the dough: 500 g flour, 2 eggs, 120 g water, 1 teaspoon salt.

Boil the meat whole over a low fire for 2 1/2 hours. Make sure the lid is close fitting. Skim the fat off and place in separate bowl.

While the meat is cooking prepare a stiff dough, roll out to a thickness of 2 mm and cut into squares 6×6 cm.

When the meat is done, remove from the stock and slice thinly in strips against the grain. Pour a quarter of the broth over it, add sliced onions, pepper, a bit of parsley and cook for some 6 minutes over low flame.

Boil the squares of dough in the remaining broth. Place them in soup plates or on a large platter. Pour the fat skimmed off the broth over them, sprinkle with pepper and parsley, heap the meat on top and add a small amount of broth.

The broth in which the meat and other ingredients were simmered and the broth in which the dough was cooked should be combined and served separately in bowls.

FORESIGHT

by **Boris NOTKIN**
from the magazine MOLODYOZHNAYA ESTRADA

"Ivan Petrovich, everyone knows you to be a wise man of great experience. I'd like your advice."

"Delighted if I can be of assistance."

"Imagine this situation. The wife is displeased with her husband – he lacks willpower, lacks business acumen, has neglected his science. In the meantime, the neighbours have built themselves a country cottage and her girl friend has a new fur coat. In brief, there is no end to the reproaches. What is to be done?"

"Doesn't sound good, my friend. Better to get a divorce in that case."

"But his wife truly loves him. She is delighted by his successes and is upset by his failures. And if he happens to fall ill she is at her wit's end.

"In that case, divorce is out."

"On the other hand, how to explain... The husband is totally enslaved. All the household chores fall on his shoulders. He has no personal freedom at all. He can't even dream of



Drawing by Pavel DENISOV

going fishing on the weekend or enjoying a mug of beer with friends."

"Better to divorce then. Freedom is the most precious thing of all."

"But account must be taken of how their house is run. Everything sparkles, everything is kept spic and span. And the food – the cooking is simply delicious!"

"Well now, that's a big plus in married life. I'd say, no divorce."

"But, Ivan Petrovich, if the husband is slightly delayed at work, there are tears at home. Every telephone call arouses suspicion. The atmosphere is nerve-wracking and all over trifles."

"I'd say an immediate divorce is in order."

"And what about the children? Both husband and wife adore their children."

"Oh, well, if there are children, then divorce is out of the question... Excuse me, but why are you asking me all this? I thought you were a bachelor."

"That's right, but I'm trying to foresee all possible contingencies."



"They say that in order to win recognition one must die." These words, written by the young Vampilov on the first page of his first play, now seem prophetic.

The future writer was born in the old Siberian village of Kutulik in 1937. The first press reviews of Vampilov's plays rhapsodized about this "lad born in a Siberian village who writes plays on the basis of sheer intuition." The legend soon died a natural death. It became obvious that Vampilov's plays revealed a high level of professionalism and a wealth of inner culture.

One of the most vivid personalities in the current Soviet theatre world is Alexander Vampilov. Only one of his plays was staged in his lifetime. Now, years after his tragic death, the concepts of the "Vampilov theatre" and "post-Vampilov plays" have struck deep roots.

A KNIGHT OF KINDNESS

based on materials from the magazines NASH SOVREMENNIK & OKTYABR

The prime factor behind the human essence of this young writer was his family. His father, a Buryat by nationality, a school principal and teacher of the Russian language and literature, was an uncommon sort of person. He died shortly after his son's birth, having named him Alexander, in honour of Alexander Pushkin. His mother, a Russian and a teacher of mathematics, inculcated in her son a love of classical literature. Vampilov was introduced to music early in life. His grandmother, a music mistress, sang old songs to her grandson. Later Alexander developed a passion for Beethoven. He himself played the dombra, the piano and the guitar. Vampilov left Kutulik when he was 18. On the eve of his 35th birthday he drowned in Lake Baikal.

He began to write while still in school and subsequently attended Irkutsk University, Siberia's oldest, which has a developed school of men of letters and literary critics. The now famous writer Valentin Rasputin was his classmate and friend. Vampilov contributed to newspapers, wrote plays and offered them to thea-

tres in Siberia and later Moscow, where he attended a Literary Institute. However, his relations with the theatre long remained complex.

Leading directors, while acknowledging his talent, at first failed to understand his plays. Carried away by the literary upsurge of 1960s, they dreamed of dramas for worthy of the prose which they admired and adapted for the stage. However, when it arrived they simply overlooked it because it was distinctly unlike what they had expected. It was too "prosaic," it didn't come in the front door, where preparations were made to welcome it, but from the provinces. Its pioneer was Vampilov.

The nerve centre of Vampilov's plays is the search for man's moral principles. In various ways he expressed one thought – about the energy of the soul, the power of resistance to inner provincialism, the omnipotence of good. This could vividly be seen and felt in his early plays – *Farewell in June* and *The Elder Son*. After the appearance of *Duck Hunt* – his most interesting play – it became evident that Vampilov was an outstanding phenomenon. His plays were not confessions, in other words, not a tool of self-expression. They stirred the heart and mind, fusing together cast and audience. Vampilov's works sought for inner conflicts, baring diseases of the soul and diagnosing its dramas. Another hallmark was much greater frankness with the spectator than his predecessors had indulged in. His plays were more frank and stern than many theatrical works popular at the time.

As if gazing over the heads of his immediate predecessors, Vampilov admired far-off summits, above all, Gogol, the author of *The Inspector-General* and *Dead Souls* and a classic of 19th-century Russian literature. The dramatist made a painstaking study of human nature, emphasizing whatever best he found in it. And perhaps like few others he realized that morality was intimately connected with the most progressive ideas of his time.

The most vivid but also the most bitter play he wrote was *Duck Hunt* – a play about the trivialization of man's inner world. It was a cry of despair and pain at the sight of a person who is morally degenerating. Of all his plays this stands closest to Gogol. Not accidentally, Vampilov chose for it an epigraph from Gogol: "Take with you on the journey, as you emerge from tender youth into stern, embittering manhood, take with you all human stirrings, do not leave them on the road, for

afterwards you will be unable to retrieve them!"

The play is in the form of recollections by its chief protagonist, Zilov, a man who has lost everything – relatives, friends, a taste and interest in life. The eyes of this 30-year-old man reveal indifference and boredom, confidence in his physical adequacy and a premature inner fatigue, as if from boyhood he had stepped straight into the senility of the soul, bypassing maturity. These recollection scenes, so to speak, form a down staircase.

The play even gave rise to the term Zilovism. People easily fall prey to the sin of Zilovism, warned the playwright – a light-minded, thoughtless attitude to life. The degenerating Zilov feels a revulsion against himself and takes it out on the people around him, ready to insult all and sundry. It is the rebellion of a shallow soul, which, like a whirlpool is ready to suck everything into its vacuum.

The cast of characters includes what could be called Zilov's double, to whom he is drawn. Dima, a waiter, is his only friend, more exactly, duck hunting companion. Dima sets out the exact boundary between Zilov and himself which will now be wiped out. He discovers that to Zilov nature is alive. That is why he deliberately missed when hunting. For Dima nature is dead "by definition." He kills ducks with accurate aim. In the finale the companions set out on a duck shoot. The spectator can rest assured that now Zilov will not feel any delight or trepidation in the face of Nature. Hence, he will not miss.

Another quotation from Gogol: "Dear friend. We are brought into this world not in order to destroy and exterminate but . . . in oder to direct everything towards good. Even what man has already ruined by changing it into evil."

This is Vampilov's own stand. As in his other plays, he is stirred by the thought of man's purpose in life.

Vampilov is a sober realist, not a describer of manners and mores. He is always odd, usually basing his subjects on an anecdote or some light adventure. But as he proceeds from the anecdote the author raises the spectator's thought to the level of philosophical speculation. In his stage fantasies, "unlifelike adventures" and tragicomedies an angel, for instance, may appear in the guise of a real character.

The Elder Son is perhaps the most optimistic of all his plays.

Two young scapegraces, student Vladimir Busygin and a salesman Semyon Sevastyanov,

nicknamed Sylva, arrive late for the last electric train and are stuck in a far-off suburb on a cold autumn night, in the doorway of an unfamiliar house where the poor devils huddle in the cold. After a while the two friends enjoy the hospitality of the home of a total stranger, an old musician named Sarafanov, to whom Busygin passes himself off as his wartime baby son. The surprise visitors are in no hurry to expose the ruse. Meanwhile, Sarafanov's gullibility and kindness know no bounds.

Vampilov gradually and unobtrusively makes the viewer believe that kinship of spirit is far more important than that of blood and that responsiveness is the greatest of human traits. It seems that in another instant the pair will be exposed and, having had a good laugh, will go each his own way. At this point, however, the plot that started as a farce suddenly veers off in another direction. The finale of this "comedy of errors" is full of emotion.

Vampilov treasures inner idealism – even if it is odd, Quixotic and stubborn, like the idealism of the old man Sarafanov with his pathetic secret (he pretends to be playing in a symphony orchestra) and his dream of writing an oratorio that will bring him fame. Even if his dedication to the ideals of youth appears to be eccentric, all the same the great force of this old musician lies in his refusal to "harden, or grow mouldy and waste himself on the inanities of the world. Every human being is born a creator and everyone must work creatively within his field . . . , so that the best of him remains after he goes . . ."

Nothing can be above truth. However, for Vampilov the good in man being a still more powerful force, another truth matures within the fraud. Far more important than the fact that Busygin got round Sarafanov by claiming that he was his son, is the fact that Busygin becomes fond of the old man and the two actually develop a father and son relationship.

The play raises kindness to the level of one of the most precious human talents. The writer makes the spectator recall that intellect forges ahead when all the moral forces in man become awakened. Fate was unkind to Alexander Vampilov. Recognition and fame came posthumously. The traits of his characters and his ideas in one way or another have manifested themselves in plays by younger dramatists – the post-Vampilov generation.

THE ELDER SON



A Comedy in Two Acts

by Alexander VAMPILOV

THE ELDER SON

Excerpts from the Comedy

by Alexander VAMPILOV

List of Characters

BUSYGIN
SYLVA
SARAFANOV
VASENKA
KUDIMOV
NINA
MAKARSKAYA

Two chums, student Vladimir Busygin and salesman Semyon Sevastyanov, known as Sylva, have missed the last suburban train home and are stuck in a small settlement not far from a big city. Amorous adventures have led them to a doorway where the two friends huddle with cold and wonder where they can spend the night. At the same time they are keeping a close watch on the inhabitants of the building; the musician Sarafanov, his son Vasenka, and their neighbour across the way, Makarskaya, with whom Vasenka is in love.

While Sarafanov is talking to Makarskaya about his son's feelings, Busygin and Sylva decide to try their luck in his flat. – *Ed.*

ACT ONE

SCENE TWO

At the Sarafanov apartment. Among old pieces of furniture and other household objects most prominent is the sofa and wardrobe. One of the doors leads to the kitchen, another to the adjacent room. The window concealed by the curtain overlooks the yard. A fully packed knapsack sits on the table. At the table Vasenka is writing a letter.

Vasenka *(reads the letter aloud):* "I love you more than anyone ever will. Some day you will realize this. But now don't worry. You have attained your objective. I have come to hate you. Farewell. V.S."

Nina appears from the other room dressed in a housecoat and slippers. Vasenka stuffs the letter in his pocket.

Nina: Have you finished?

Vasenka: None of your business.

Nina: And now you can go and hand her your message and then go to bed. Where's dad?

Vasenka: How should I know?

Nina: I wonder what's taken him out in the middle of the night. *(picks up the knapsack)* And what's this?

Vasenka attempts to grab the bag from Nina. They struggle.

Vasenka *(lets go):* I'll get it when you go to bed.

Nina *(shakes out the contents):* What's this? Where were you off to?

Vasenka: On a hike.

Nina: And this? What do you need your passport for?
Vasenka: None of your business.
Nina: What are you up to? Don't you know that I'm about to leave?
Vasenka: So am I.
Nina: Have you gone crazy?
Vasenka: I'm leaving too.
Nina: You don't give a damn about me, all right, but you must think of dad.
Vasenka: You don't think about him. Why should I?
Someone knocks on the door.
Vasenka *(automatically)*: Come in.
Busygin and Sylva walk in.
Busygin: Good evening.
Vasenka: How do you do?
Busygin: May we see Andrei Grigoryevich Sarafanov?
Vasenka: He's out.
Busygin: When will he be back?
Vasenka: He's just gone out. I don't know when he'll be back.
Sylva: And where has he gone if it's not a secret?
Vasenka: I don't know. *(alarmed)* But what's the matter?
Busygin: And how is . . . his health?
Vasenka: My father's? So-so. He's got hypertension.
Busygin: Hypertension? You don't say! How long has he had it?
Vasenka: A long time.
Sylva: *(addressing Busygin)*: Maybe you should come back tomorrow?
Vasenka: I don't quite understand. What's this all about?
Busygin: May I present myself? Vladimir.
Vasenka: Vasili . . . *(to Sylva)* Vasili.
Sylva: Semyon, nicknamed Sylva.
Vasenka *(suspiciously)*: Sylva?
Sylva: Sylva. The kids at the . . . at the boarding school nicknamed me that because of my fondness for . . .
Busygin: Music.
Sylva: It's a fact.
Vasenka: I see. But what do you want with dad?
Sylva: What? Actually, we came to see him.
Vasenka: You mean you haven't seen him for a long time?
Busygin: I don't know how to put it. You see, I've never met him.
Vasenka: I don't get it . . .
Sylva: Don't be surprised . . .
Vasenka: I'm not surprised . . . In fact, nothing surprises me any longer.
Busygin: It's a secret.
Vasenka: A secret?
Busygin *(to Vasenka)*: You see, it's like this . . . Andrei Grigoryevich Sarafanov is my father. *(Silence)*. Yes, Vasili, your dad is my father, strange as it may seem.
Vasenka: What?
Sylva: Yes, Vasili! Andrei Grigoryevich Sarafanov is his father. The brothers have met at long last! What an event, eh?
Vasenka *(bewildered)*: Indeed, extraordinary . . .
Sylva: What a marvellous development! Just think! We need to celebrate the occasion!
Vasenka *(still at a loss)*: To celebrate? Of course . . . Yes *(goes*

to the kitchen).

S y l v a *(laughing):* Brilliant! I would never have thought of it!

B u s y g i n *(also laughing):* Don't get excited. But you shouldn't have started in about drinks. Too crude.

S y l v a : Listen, what gave you the idea?

B u s y g i n : Chance. Pure chance. I was raised on alimony. I suddenly thought of it. My filial feelings were awakened.

S y l v a : Just a minute! What if his father comes in?

They go out to the kitchen. Sarafanov comes in. He goes up to the door of the adjacent room, opens it and then closes it softly. Vasenka enters from the kitchen and also closes the door behind him. He is visibly tipsy and in an ironic frame of mind.

S a r a f a n o v *(sees Vasenka):* So, that's where you are . . . And I went out for a walk. It's raining now. It made me recall my young days.

V a s e n k a *(insolently):* Most appropriate.

S a r a f a n o v : I did a lot of foolish things in my youth but I was never hysterical, you know.

V a s e n k a : Listen to what I have to say.

S a r a f a n o v *(interrupting him):* Vasenka, it's only weak folk who let themselves go. And don't forget that there's only one month left until exams. You have to finish school, whatever happens.

V a s e n k a : Well, dad, while you were out strolling in the rain . . .

S a r a f a n o v *(interrupting him):* And then there's another thing. You can't just both take off – both you and Nina. You just can't do that . . . No, no you can't go. I won't let you.

V a s e n k a : Father, we have guests and quite out of the ordinary ones. There's a guest there and someone else . . .

S a r a f a n o v : Vasenka, if there's a guest and someone else that makes two guests. Who is it? Speak up, boy.

V a s e n k a : Your son. Your elder son.

S a r a f a n o v *(not at once):* You said . . . Whose son?

V a s e n k a : Yours. Now don't get excited . . . I, for one, treat the matter with understanding and I don't condemn you and am not at all surprised. There's nothing that can surprise me now . . .

S a r a f a n o v *(not at once):* Are jokes of this kind now the fashion? Do you find them amusing?

V a s e n k a : Jokes? What jokes? He's in the kitchen. Having supper.

S a r a f a n o v *(looks closely at Vasenka):* Someone is having supper. That may be. I grant you that . . . But you know, there's something I don't quite like about you tonight *(sees the light suddenly).* You're drunk, aren't you?

V a s e n k a : Of course, I had something to drink. Who wouldn't on such an occasion? I never knew I had a brother but – there he is in person! Go, take a look at him and you'll really get loaded!

S a r a f a n o v : Are you in your right mind?

Vasenka: But upon my word. I'm perfectly in earnest.
He's here in transit and has missed you terribly . . .
Sarafanov: Who is he?
Vasenka: Your son.
Sarafanov: Then who are you?
Vasenka: For heaven's sake, go and talk to him yourself.
Sarafanov *(heads towards the kitchen, hears voices, stops by the door, returns to Vasenka):* How many are there?
Vasenka: I told you, two.
Sarafanov: And what about the second one? Does he also want me to adopt him?
Vasenka: Father, they are grown people. Why should anyone who is an adult want parents?
Sarafanov: So, you think they're superfluous?
Vasenka: Forgive me please. I wanted to say that no adult needs someone else's parents.
(Silence).
Sarafanov *(listens closely):* This is really incredible. That one's own children desert you – is something I can understand. But to have someone else's children come around – and children, mind you, who are grown up, claiming they are yours . . . well! How old did you say he was?
Vasenka: I'd say around twenty.
Sarafanov: The devil! You say twenty? That's neither here no there . . . Around twenty! Twenty! *(falls into deep thought)* Twenty years old . . . twenty . . . *(sits down).*
Vasenka: Don't take it so hard, father. Life is one great mystery . . .
Busygin and Sylva walk out of the kitchen but on seeing Sarafanov in the room retreat and begin observing and listening to his conversation with Vasenka behind the semi-closed door.
Sarafanov: Twenty years ago . . . The war had just ended . . . Twenty years . . . I was thirty-four then *(gets up).*
Busygin closes the door completely.
Vasenka: I understand, father.
Sarafanov *(flaring up in anger):* Why recall all this now! I was a soldier then! A soldier, not a vegetarian! *(walks around the room distractedly).*
Busygin keeps opening the door a crack when possible and listens.
Vasenka: I understand, dad, I really do . . .
Sarafanov: What? You're much too understanding today! I wasn't even acquainted with your mother then, mind you!
Vasenka: That's just what I thought, father. Now don't get so upset about it.
Sarafanov *(interrupts him):* No, no! Nonsense! Just a terrible muddle.
Sarafanov is standing between the kitchen and the door to the outside anteroom, so Busygin and Sylva cannot flee.
Vasenka: You think he's lying? But what for?
Sarafanov: I think it's just a mistake! You'll see that it is! Just

think yourself! To be my son he has to resemble me! That's the first thing.

V a s e n k a : Father, but he does resemble you.

S a r a f a n o v : What? .. Nonsense! Nonsense, I tell you! You must be mistaken ... The minute I ask him how old he is, you'll see that it's all sheer nonsense! Because if it comes to that he can't be twenty today ... He must be ... now let me see ...

Busygin peeps out from behind the door.

Not twenty ... He must be twenty-one! Yes! Twenty-one! So you see! Not twenty and not twenty-two *(turns to face the door).*

Busygin disappears.

V a s e n k a : But if indeed he is twenty-one?

S a r a f a n o v : That can't be so!

V a s e n k a : But if it is?

S a r a f a n o v : You mean if it's a coincidence? Just a coincidence. That of course cannot be ruled out ... Then ... Then ... *(deep in thought)* Don't bother me ... His mother's name must be ... must be ...

Busygin peeps out.

(recollects the name) Galina!

Busygin disappears.

Now I remember! It's Galina! Not Tatyana or Tamara!

V a s e n k a : And the surname? And the patronymic?

Busygin peeps out.

S a r a f a n o v : The patronymic. *(hesitantly)* I think it's Alexandrovna ...

Busygin disappears.

V a s e n k a : So. And the surname?

S a r a f a n o v : The surname? The surname is ... Well the first name will do ... More than enough ...

V a s e n k a : Of course, of course. So many years have gone by ...

S a r a f a n o v : That's just it. Now where has he been keeping himself all this time? He's grown up now. What does he want with a father? There must be something more to it than meets the eye and I shall quickly make him confess. Just you watch me. What is his name?

V a s e n k a : Volodya. More power to you, dad, because ... he loves you.

S a r a f a n o v : Loves me? But ... what for?

V a s e n k a : I really don't know. Must be that blood is thicker than water ...

S a r a f a n o v : Blood? Now stop all this kidding ... *(sits down)* You say they've come right from the station? ... Have you found them something to eat?

V a s e n k a : Yes. And something to drink too. A snack and a drink to go with it.

Busygin and Sylva attempt to beat it. They tiptoe towards the exit. But Sarafanov turns in his chair and they sneak back into the kitchen.

Sarafanov *(rising):* Maybe I need a drink too?

V a s e n k a : Courage, dad, courage.

Busygin and Sylva reappear.

Busygin: Good evening!

Sarafanov: Good evening...

(Silence.)

Vasenka: So now you have met. *(to Busygin)* I told him everything. *(to Sarafanov)* Now don't get upset father!

Sarafanov: Why don't you... sit down... Sit down! *(looks closely at both of them).*

Busygin and Sylva sit down.

(standing) And you've just come... from the station?

Busygin: We... to tell the truth... quite a while ago. Some three hours ago.

(Silence.)

Sarafanov *(to Sylva)*: So... You're in transit?

Busygin: Yes. I'm on my way back from a sports meet. And now I've come... to see you.

Sarafanov *(giving all his attention to Busygin now)*: Oh! So you're a sportsman! That's good... At your age, you know... And where are you heading now? To another competition? *(sits down).*

Busygin: No. I'm on my way back to college.

Sarafanov: Oh! So you're a student?

Sylva: Yes, we're medical students. Going to be doctors.

Sarafanov: That's good! Sport is a sideline but science is science! That's the spirit... Excuse me, I want to sit closer. *(changes his chair and sits closer to Busygin)* When you're twenty there is time for everything – for studies and for sports. Yes, it's a wonderful time of life. *(with resolution)* You're twenty now, aren't you?

Busygin *(sadly and with some reproach)*: No, you've forgotten. I'm twenty-one.

Sarafanov: What? But of course! It's twenty-one. Naturally! And what did I say? Of course it's twenty-one...

Sylva: Now don't get upset. If one gives serious thought to the matter it's a case for joy, not sorrow. Don't you think?

Vasenka: Really, dad.

Sarafanov: Of course... I'm glad. *(questioningly)* All of us are full of joy, aren't we?

Busygin: Of course... And most of all – me.

Sarafanov *(a bit more optimistically)*: Vasenka, do we have anything in the house to drink? Give us something, eh?

Vasenka: Right-o! *(goes to the kitchen).*

Silence. Then Busygin and Sarafanov, addressing each other, begin to talk simultaneously. Both stop at the same time and apologize.

Busygin: Go ahead.

Sarafanov: No, no, you speak, *(cautiously)* speak up...

Vasenka walks in, places a bottle and glasses on the table, then sits down himself, puts his hands on the back of the chair and drops his head. He is drunk. Sarafanov hurriedly fills the glasses.

Busygin: I wanted to say that... At last we've reached the time when...

Nina comes in.

Nina *(crossly):* You're not letting me sleep a wink! What's all this? What's going on here?

Vasenka *(raising his head):* Now don't be surprised . . . *(drops his head).*

Nina's appearance greatly impresses both Busygin and Sylva.

Nina: What's all this? *(to Sarafanov)* Up till now you indulged in solitary drinking at night. What's going on now?

Sarafanov *(hesitantly):* You see, Nina, we have a great joy. Your elder brother has finally been found.

Nina: What?

Sarafanov: Your elder brother, I want you to meet him.

Nina: What? Who has been found? Whose brother?

Sylva *(pushing Busygin):* It's him. This chap.

Nina *(to Busygin):* And you are the brother?

Busygin: Yes . . . What about it?

Sylva: What about it?

Vasenka *(not raising his head, softly in a very drunken voice):* Yes, what about it?

Sarafanov *(to Nina):* You didn't know about him. Unfortunately . . . I didn't tell you. *(to Busygin)* Frankly I was afraid you had . . . forgotten about me.

Vasenka: So you see. He was afraid.

Busygin: How could I? I couldn't forget . . .

Sarafanov: Forgive me. I was wrong.

Nina: Now, let's straighten this out. So, you are his father, and he is your son? Is that what it is?

Sarafanov: Yes.

Nina *(after a pause):* Well, it could have happened.

Vasenka: Absolutely.

Nina *(to Busygin):* And where has he been keeping himself all this time, I wonder.

Vasenka: Yes, where was he before?

Nina *(hitting Vasenka lightly on the head):* Pipe down, will you?

Sarafanov: Nina. Your long lost brother has been found. Don't you realize that?

Nina: I do. But I'm wondering where he used to keep himself before tonight.

Vasenka *(raising his head):* Now don't get upset. Dad didn't even know our mother at the time. Did you?

Sarafanov: Pipe down, will you.

Nina: Yes, it's been a long long time. But are you sure he is your son. *(to Busygin)* How old are you?

Vasenka falls asleep.

Sylva: Just look at them. Can't you see the likeness?

Nina *(hesitantly):* No. There is no resemblance.

Sylva *(to Busygin with an offended note):* I gather we are being suspected of something.

Nina *(to Sarafanov about Sylva):* And who is the other one? Also a relative?

Busygin: A friend of mine, Semyon by name.

Nina: And how old did you say

you were?
Busygin: Twenty-one.
Nina *(to Sarafanov)*: Well, what have you got to say to all this?
Sarafanov: Nina! You shouldn't... And then I've already asked him...
Nina: All right! *(to Busygin)* And what is your mother like? And what is her name? And where did she meet him? And why didn't she receive alimony from him and why didn't you find us sooner – now give me all the details...
Sylva *(alarmed)*: You sound like an investigator...
Nina: And what did you expect? I think you're both a couple of crooks.
Sarafanov: Nina!
Busygin: Do we really look like crooks?
Nina *(hesitantly)*: You do. *(to Busygin)* Go ahead, talk and we'll listen.
Sylva *(to Busygin showing he is intimidated)*: I would take offense in your place and leave. Right this minute.
Busygin: I learned about dad just recently...
Nina: From whom?
Busygin: From my mother. Her name is Galina Alexandrovna and she met father in 1945.
Sarafanov *(excited and very moved)*: He is my son!
Busygin: Father!
Sarafanov and Busygin rush into each other's arms and embrace.
Sylva *(to Nina)*: So you see? Blood is thicker than water. You can always tell...
Sarafanov: Nina! I have no more questions! Indeed he is your brother! Embrace him! Embrace your brother. *(to Busygin)* Embrace her!
Busygin: I am so happy, sister... *(comes up to Nina and embraces her on the spur of the moment but not without pleasure)* So happy...
Sylva *(enviously)*: You said it!
Sarafanov *(Deeply moved)*: Goodness gracious... Who could have known?
Nina *(to Busygin)*: Well, maybe that's enough? *(frees herself from his embrace but is quite confused).*
Sarafanov: Who could have thought... I am so glad, so happy!
Busygin: Me too.
Nina: Yes. Very moving.
Sylva: Hurray! Let's drink to it.
Sarafanov *(to Busygin)*: Shall we drink to it, son? What do you say?
Busygin: I would say so. Absolutely.
Nina: When it comes to drinking I can indeed see the resemblance.
Everybody laughs.
The stage darkens. Sprightly music can be heard. The music stops, the lights go on. It is the same room. Sarafanov and Busygin are sitting at the table. The bottle is empty. Sylva is asleep on the sofa.
Sarafanov: I had the rank of captain and I could have stayed

in the army. But I got demobbed. I had served in the artillery and that, you know, affects one's hearing. And besides I had forgotten everything. Guns and the clarinet have little in common. Initially I played at dance halls, later on at some of the restaurants. Then I was promoted to the parks and the cinemas. My hearing, happily, improved and when a symphony orchestra was formed in town I was accepted. Are you listening?

Busygin: I'm listening, father.

Sarafanov: And that's my whole life... Not everything has come to pass like I thought it would in my younger days, but still it's not too bad. And if you think that your father has given up the ideals of his youth completely you are wrong. I have not hardened, or grown mouldy and I shall never waste myself on the inanities of the world – no, never *(gets up from his seat and bends towards Busygin to whisper in his ear)*. You know I compose *(sits down)*. Every human being is born a creator and everyone must work creatively within his field to the extent that his abilities allow, so that the best of him remains after he goes. That's why I compose.

Busygin *(perplexed)*: And what do you compose?

Sarafanov: What I can. Music of course.

Busygin: Oh, I see.

Sarafanov: What do you see?

Busygin: Well, that you compose music.

Sarafanov *(suspiciously, ready to take offense)*: And you... What is your attitude to it?

Busygin: Mine? Well, I believe it's a worthwhile occupation.

Sarafanov *(speaks quickly and somewhat heatedly)*: I don't expect to achieve too much but I need to complete one composition, just one! Because I want to express only the most important things, only the most important ones. I have to do it. I feel obliged to do it because no one else will besides me. Do you follow?

Busygin: Yes, yes... Forgive me father. I wanted to ask you something...

Sarafanov *(pulls himself together)*: What is it, son? Shoot.

Busygin: Nina's and Vasenka's mother... Where is she?

Sarafanov: We were divorced fourteen years ago. She believed I spent too much time playing the clarinet in the evenings. And there was this engineer who showed up at about that time – a very serious-minded person so we parted with her then... No it wasn't like it was with your mother. Your mother was a marvellous woman... My goodness! It was a difficult time but it can never be forgotten! It was in Chernigov... On the Desna... The beautiful chestnut trees... And there was a dressmaker's shop on the corner... You must know it!

Busygin: I'll say, I do!
Sarafanov: Well, that's where she worked.
Busygin: And now she is the manager of a garment factory.
Sarafanov: I can just imagine it. Is she as jolly as ever?
Busygin: Everybody says she has not changed one bit.
Sarafanov: Really? Well good for her! I guess she must be no older than forty-five now.
Busygin: Forty-four.
Sarafanov: Is that all? And is she . . . is she married?
Busygin: No, no. There's just the two of us.
Sarafanov: Is that so? But she is worthy of the greatest possible happiness.
Busygin: My mother doesn't complain. She is a proud woman.
Sarafanov: Yes, I see . . . What a sad situation . . . Our regiment was moved at the time to Gomel and she remained in Chernigov, all alone on the dusty road. Yes, she was there all alone.
Busygin: She was not all alone then, as you can see now.
Sarafanov: Yes, yes . . . of course . . . But wait . . . Wait a minute. Let me recall! I seem to remember that she never had any intention of having a child!
Busygin: I was born accidentally.
Sarafanov: But why was she silent all these years? How could she be silent about it for so many years?
Busygin: But I told you already. She is a proud woman.
Sarafanov: I'm glad it happened that way. I really am.
Busygin: But I would keep asking her about my father. I kept asking since I learned to talk.
Sarafanov: And you really wanted to find me?
Busygin: When I was still a Young Pioneer I swore I'd find you.
Sarafanov *(moved):* Poor boy! Indeed, in a situation like that you should have come to hate me.
Busygin: Hate – you? No, father. That is impossible. Nobody could hate you. I feel I understand you perfectly.
Sarafanov: I can see you're a good boy. Not like your younger brother. He's oversensitive. What they call highly strung. But I think he simply lacks character.
Busygin: It's always hard on them if they're oversensitive.
Sarafanov: That's what I mean. That's why he's so unhappily in love . . . It used to be peaceful living around this place and all of a sudden – bam! – It's gone to his head and now he's planning to leave home . . .
Let me embrace you once more. *(gives Busygin a fatherly kiss on the forehead and becomes embarrassed)* Forgive me . . . You see I was so deeply distressed.
Busygin: But why?
Sarafanov: Well, one kid is leaving home because he's unhappily in love. The other is leaving because she's happily in love . . .

Busygin *(interrupts him)*: Who's leaving?

Sarafanov: Nina. She's getting married.

Busygin: Getting married?

Sarafanov: That's just it. She's leaving a few days from now and going to live on Sakhalin in the Far East. And yesterday her kid brother tells me he's going to join a building team in the taiga in Siberia. So now you know what happened when you knocked on the door.

Busygin: What happened ... when I knocked ...

Sarafanov *(interrupts him)*: A miracle happened! A real miracle. And they call me unsuccessful!

Busygin: So, she's getting married ... And whom is she marrying?

Sarafanov: Her future husband is a pilot, a good man. He's graduating from an aviation school and there is a place waiting for him in Sakhalin. She's going to introduce us today, come to think of it.

Busygin: I see ... And how old is Nina?

Sarafanov: Nineteen.

Busygin: Really?

Sarafanov: Well, she couldn't be older. But she's a serious girl, quite serious. I even think she shouldn't be so serious. Of course she's had a hard life. She's kept house for us and worked as a dressmaker and was preparing to enter college. So she's really quite a girl.

Busygin: I see. And why doesn't she take you with her?

Sarafanov: No, no. Here in this town I have everything. I was born here and ... Why should I get in their way? It's been three months now she's been dating her future husband and a few days from now they are going away. But I haven't met him yet. How do you like that? However, I shouldn't complain. It's morning already and you should be getting some sleep. Lie down, son. Is it all right if you share the sofa with your friend for the time being?

Busygin: Suits me fine.

Sarafanov: Well, good night then. *(kisses Busygin on the forehead again)* Don't be angry with me, son. I'm much too excited ... Sleep well, now. *(Sarafanov goes into the other room).*

Busygin rushes over to Sylva and shakes him. Sylva grunts and tries to free himself.

Busygin: Get up Sylva! Get up, I tell you.

Sylva *(waking up)*: What a life ...

Busygin: Get up.

Sylva: I've not had enough sleep for a whole month! The only day for that is Sunday and you can't let me alone even then. Hey, that sister of yours is not bad looking, eh? I wouldn't say no.

Busygin: Get up and stop talking *(throws him his shirt)*. Now step on it!

(Sylva gets up.)

You were fast asleep while we talked through the night getting on each other's nerves.

Sylva: What? Have they caught on already? *(begins to pull on his things quickly)* Well, it's really all the same. Just another dirty joke, that's what I call it. But one they could easily take us to court for. *(thrusts his feet in his shoes)* Let's beat it!

(Busygin stands deep in thought.)

Well, what is it now?

Busygin: That old man – he's like a saint.

Sylva: Well you did him good and proper. You really put one over on him artistically I would say.

Busygin: So God help me, I'll never do it again. You can't deceive a man who believes every word you say. Come along, now.

Busygin and Sylva move towards the door. Sarafanov, holding a pillow, comes out of the other room at that moment.

Sarafanov: Sonny!

(Busygin stops in his tracks. Sylva halts on the threshold.)

Where are you going?

Busygin *(turning to Sarafanov)*: I... You see... We have to be going...

(Sarafanov drops the pillow. He picks it up.) But don't worry. As soon as the exams are over – I will come straight away. *(Sarafanov is silent.)*

Don't you believe me?

Sarafanov: I do. I believe you but... Could you really have gone away without saying goodbye?

Busygin: You see... I didn't want to wake you up...

And to tell the truth it's hard saying goodbye. I wanted to avoid it.

Sarafanov: Well, in that case. *(extends his hand to Sylva)* Goodbye. I was glad to meet you. Come together in June.

Silva: By all means.

Sarafanov: Well son... One can't help it – a college education is a serious thing... Too bad of course, but there's nothing to be done about it. The most important thing is that we have come to know one another... *(suddenly, as an afterthought)* Wait a second! I want to give you something to remember me by.

Busygin: What is it father? Listen, you don't have to...

Sarafanov: No, no. This I must do. It's just a trifle and you must accept it. I'll get it at once *(quickly goes into the other room)*.

A short pause.

Sarafanov returns holding an expensive cigarette-case.

Sarafanov: Here, son. This is just a trifle, a silver cigarette-case. There has been a tradition in the family for the elder son to have it.

My great-grandfather gave it to grandpa and I got it from your grandpa who was also my father. Now it is yours.

A small pause.

Busygin *(takes the case in confusion and then puts it on the table)*: Thank you father... You know, I've decided to stay... for another day. And tomorrow I can take the plane.

Sarafanov: Is that possible?

Busygin: Why not?

Sarafanov: Marvellous! We

will spend the whole day together ... Is it Sunday today? ... That's unfortunate. I will have to go to the philharmonic society at seven but that won't take long. I play only in the first part of the concert for an hour or so! Air travel is a great thing, isn't it. *(to Sylva)* And you Semyon? I hope you can stay with us too.

Sylva: You're inviting me? You know I ...

Nina comes out of the bathroom and goes into the other room. Sylva gazes at her with glowing eyes. Busygin also looks at her.

Of course! I go where he goes. We are such close friends.

Sarafanov: Then it's settled. I can see you are great friends.

Vasenka walks out of the other room. He squints, his hair is ruffled.

Sarafanov *(gaily)*: Oh, yes ... Sarafanov junior.

In a state worse than bad.

Busygin: His first hangover. *(Sarafanov and Busygin laugh.)*

Sarafanov: It's lucky he doesn't have to go to school today.

Vasenka: I won't be going there anyway.

Sarafanov: Still carrying on in the same spirit?

Vasenka: What do you mean carrying on? I said I'm leaving and I am.

Busygin: If I were you I'd finish school first.

You'll always be welcome in the taiga. The whole year round.

Nina: Where is he supposed to be going?

Vasenka: None of your business.

Sarafanov: It would be beneficial for you to know your sister's opinion. She's ten times more sensible than you are.

Vasenka: Father, I am a mediocre personality. Everybody knows that. It is your daughter who is sensible, clever and beautiful.

Sylva: No kidding about that.

Vasenka: Apart from that you have another son so now you can afford to leave me in peace. To my mediocrity.

Sarafanov: There's just no getting through to him.

Nina *(to Busygin)*: Congratulations. You've landed in an insane asylium.

Busygin *(to Vasenka)*: If I were you, I'd listen to your father. And sister.

Vasenka: You turned up just in time. Now you can listen to them in my place.

Busygin: But unfortunately I have to go.

Nina: Really? .. When?

Busygin: Tomorrow.

Sylva: It's a sad thing but we're going back to college.

Nina: Yes? And I had counted on your ...

Vasenka: She thought you'd be staying with dad, that you'd be the sacrificial goat.

Sarafanov: Now Vasenka, don't start a row ... As for Volodya he's coming to see me in summer.

Nina: So you're just passing through ...

Busygin: And you, I understand, are just on the eve of departure?
Sylva: What departure? What are you talking about?
Vasenka: An idea has just occurred to me.
Sarafanov: So. My younger son has a mind.
Vasenka: We need to marry dad off.
Sarafanov: What did you say?
Vasenka: You need to get married.
Nina laughs.
Sarafanov *(to Nina):* Stop it. He's simply being rude. What's so funny about that?
Nina: Whom shall he marry, Vasenka?
Vasenka: Volodya's mother, who else?
Sarafanov: I see you're getting out of hand.
Nina *(jokingly):* Well, daddy, you should think it over. *(to Busygin)* What do you say to the proposition?
Busygin: Me? I don't know what to say.
Sarafanov: Don't pay any attention to them. You can see that I've been too indulgent a father.
Vasenka: You shouldn't get angry with me, dad. I'm not suggesting anything bad. Quite the contrary.
Sarafanov: Pipe down, you nut. *(to Sylva)* What do you think of this family?
Sylva: An outstanding family. *(points to Busygin)* He really is a lucky man.
Sarafanov: Nina, Volodya is leaving tomorrow and I have work to do this evening. *(to Busygin)* We have a serious programme today – Glinka, Berlioz. *(to Nina)* So I hope you show up a little earlier tonight.
Nina: All right.

ACT TWO

SCENE TWO

Sarafanov's apartment. It is almost 9 p.m. Busygin stands by the door to the adjacent room. Sylva, lying on the sofa, strums the guitar softly.
Somebody knocks on the door.
Busygin: Come in, the door is open.
Kudimov, an air force cadet, enters. He is carrying a bouquet of flowers and two bottles of champagne.
Kudimov: Good evening.
Busygin: Good evening.
Kudimov: Is this the Sarafanov home?
Busygin: Yes.
Kudimov: And Nina? Is she home?
Busygin: Not yet.
Kudimov *(comes up to the table):* Damn! I'm rather short of time *(plants the bottles on the table)*. We lost each other in the supermarket *(grabs a glass from the table, moving with great energy)*.

B u s y g i n *(politely):* Is this your first visit here?
K u d i m o v *(sticks the bouquet in the glass):* The first, right you are *(smiles and continues to smile most of the time. He's goodnatured).*
B u s y g i n : And you're not, as the saying goes . . . all at sea? Got your bearings?
K u d i m o v : You said it! *(winks at him)* A familiar scene *(puts the glass with the flowers on the table).* Well, lads, let's get to know each other.
B u s y g i n : Let's.
(They shake hands.)
Nina enters.
N i n a *(to Kudimov):* Oh, so that's where you are. *(to the others)* Hi! *(walks across the room)* So you've met already.
S y l v a : You said it.
K u d i m o v : Jolly lads. I like such people . . . Well, now, shall we drink to it? No sense wasting time.
S y l v a : You bet.
N i n a : Don't be in too much of a hurry. Let's wait for dad.
K u d i m o v : Let's. But in half an hour I'll be going.
S y l v a : What a life the man leads. There's a deadline to everything. And if he's a little late – he's really in for it.
K u d i m o v : I'm not complaining.
B u s y g i n : And what happens if you're late?
K u d i m o v : I am never late.
B u s y g i n : I didn't think you ever were.
N i n a : Well, for once you can be late.
K u d i m o v : Of course if it's necessary – I'm ready to comply, but if there aren't any serious grounds – it simply doesn't make any sense.
B u s y g i n : Right you are lad, don't you give in. Discipline comes first.
K u d i m o v : That's not the reason. I've simply promised myself never to be late and I honour that promise.
N i n a : But today you will be late. I want you to.
B u s y g i n : Don't listen to her, cadet. Stick to your principles.
Sarafanov walks in. He looks tired, but is in a lyrical mood.
S a r a f a n o v : Good evening. *(sees Kudimov).* Excuse me.
N i n a : Daddy, I want you to meet . . .
K u d i m o v : Kudimov, Mikhail.
S a r a f a n o v *(ceremoniously, with exaggerated dignity, playing the part of a popular performer on tour):* Sarafanov . . . So . . . I'm delighted to meet you . . . At long last we have the honour . . . in person . . . very much obliged. Won't you be seated, please. *(to Busygin)* Is Vasenka at home?
B u s y g i n : He is, but he's in a bad mood.
Sarafanov takes off his hat, puts it on the table and sits down in his raincoat. Nina carries his hat to the hall.

S a r a f a n o v *(to Kudimov):* My elder son. Have you met?

K u d i m o v: Yes, we have.

Nina returns.

S a r a f a n o v: Thank you . . . *(to Nina and Kudimov)* Well, young people . . . I see you've already decided everything on your own and we . . . We on our part accept it. That is our lot.

K u d i m o v *(pours out the champagne):* Allow me to propose a toast in your honour and to our meeting.

All rise.

S a r a f a n o v: Well, I can say that it makes me happy. All of us, doesn't it, Volodya?

N i n a *(to Busygin):* And you, does it make you happy too?

B u s y g i n: Your health, father.

K u d i m o v: Your health.

S y l v a: Your health.

S a r a f a n o v: Thank you, thank you. But I want to propose another toast, my friends . . . Forgive me but I will sit down *(sits down).* I feel exhausted. As if I had walked across the whole city. *(is confused momentarily but then carries on animatedly, trying to impress his listeners)* Glinka, if you're aware of the fact, loved the clarinet and always gave it a lot of prominence in his compositions . . .

(As Sarafanov speaks Kudimov stares at him fixedly.) Yes . . . So, today as I was walking home, I got to thinking about life. Whatever you say, life is always wiser than any of us living and being clever. Yes, life is just and generous. It makes heroes question themselves and grants to those who have not accomplished much, or who have not done anything at all, but lived with a clear conscience and an honest heart, a measure of consolation. Today I want to drink to my children . . . *(noticing Kudimov's fixed stare)* Excuse me, but why are you looking at me like that?

K u d i m o v: Forgive me but it seems to me that I have seen you somewhere before. I can't place it but I'm sure I have.

S a r a f a n o v *(alarmed):* Possibly . . . So that's what I want to do now – to drink to the health of my children . . . to you Volodya, *(to Nina)* to you and to Vasenka. *(explains to Kudimov)* That's my youngest. He's resting now. So it's to you, my children, to your health and happiness . . .

All except Busygin drink.

B u s y g i n: Your health, father *(downs the glass).*

K u d i m o v *(staring at Sarafanov):* I can't recall just where it was but I certainly have seen you somewhere. Absolutely.

N i n a: And if you have, what of it?

K u d i m o v: But where?

N i n a: Does it matter?

K u d i m o v: It'll plague me until I remember. It always does. Now where could it have been?

S a r a f a n o v *(is alarmed but still optimistic):* Could it have been at the philharmonic?

K u d i m o v: Nope.

N i n a: Snap out of it! It'll take you till doomsday.

K u d i m o v: Of course! You said doomsday and that's what jogged my memory. *(to Sarafanov)* I saw you at a funeral.

A small pause.

N i n a: What funeral?

K u d i m o v: How could I have forgotten! It was just last week and you were holding that very same clarinet in your hands!

N i n a: You must have mistaken dad for someone else.

S y l v a *(pulling Kudimov inconspicuously by his belt back into his seat):* Sit down and contain yourself.

B u s y g i n *(gets up):* It's high time you were getting back to the barracks. You have only 13 minutes left.

N i n a: Now stop it! Stop it this minute.

K u d i m o v: I haven't said anything out of place and I've told you the truth and if *(turns to Busygin)* somebody doesn't like it he can go to hell.

S a r a f a n o v: What do you mean by somebody? That somebody's my son and my daughter's brother. And you mind your manners when you speak to him.

K u d i m o v: But what about you? Why don't you tell them? Wasn't it you I saw at the funeral?

S a r a f a n o v: Yes. I must admit it. Mikhail is right. I play at funerals. At funerals and at dance halls . . .

K u d i m o v: So there you are! Didn't I tell you?

S a r a f a n o v *(to Busygin and Nina):* I understand what you've tried to do . . . And I thank you . . . But I don't think that playing at funerals is shameful.

K u d i m o v: Who said it was?

S a r a f a n o v: Any job that is necessary is good . . .

K u d i m o v: I don't want you to think that I recalled the incident because I don't like your job. Where you work is no concern of mine – it just doesn't mean a thing to me.

B u s y g i n: To you.

S a r a f a n o v: Thank you, son . . . I must confess that it's been six months since I left the orchestra.

N i n a: Forget it, dad.

K u d i m o v *(to Nina and Busygin):* Didn't you know?

S a r a f a n o v: No . . . I concealed the fact from them . . . And I see it was completely senseless to do so.

K u d i m o v: Well, I must say that the bitter truth is better than deception.

B u s y g i n *(pointing to Kudimov's watch):* Just ten minutes left. *(to Sarafanov)* Now, dad, what makes you sad? People need music when they are happy and when they are in sorrow. Where else should a musician be if not in a dance hall or at a funeral? I think you're doing the right thing.

S a r a f a n o v: Thanks, son . . .

(to Kudimov) You see how it is...

What would I do if I had no children? No, there's no reason to believe my life has been unsuccessful because I have such splendid children.

Vasenka comes out of the adjacent room. He's in a raincoat with a knapsack behind his back.

Sarafanov: Vasenka... You've chosen such an unsuitable moment...

Vasenka: No, dear father, no! This time you won't stop me.

Busygin *(comes up to Vasenka intending to pull off his knapsack)*: Listen, old man, drop the knapsack and don't do anything in a rush.

Nina *(comes up to Vasenka)*: Take off your coat *(tries to pull it off)*.

Vasenka *(to Nina)*: Let go *(pulls himself free)*.

What do you want? Is there something you lack? You can depend on dad, he'll fix everything.

Sarafanov: Vasenka!

Vasenka: Why did you go to her in the middle of the night? Who asked you to?

Sarafanov: Vasenka! I was hoping to help you.

Vasenka: You're out of your mind! It was better when you didn't meddle.

Nina *(shouts)*: Shut up!

Sylva *(glancing at his watch rises)*: Now really, I had better be going. I have tickets for the show. I hope nobody objects? *(leaves)*.

Nina: Well, don't you think we've had enough? Or have you set your heart on showing us the whole programme?

(Sarafanov rushes off into the bedroom.)

Kudimov: I'm sorry, but it's high time I went.

Nina: No. Stay.

Kudimov: Don't get me wrong. It's just a whim on your part. But I've promised myself...

Nina *(unexpectedly in a dry tone)*: Yes, go. Otherwise, heaven forbid you might really be late.

Kudimov: All right. See you tomorrow *(leaves)*.

(Nina follows him.)

Sarafanov *(bursts into the room)*: Where is he? Why has he gone? I'm the one who is unwanted here. I! I'm the old sofa she's always wanted to carry out... That's what children are like – and I had just been praising them... They have trampled upon the most sacred of sentiments!

Nina walks in and stops in the doorway.

I have brought up a couple of unfeeling egotists. Cruel, calculating, ungrateful.

Busygin: Pull yourself together, dad. I think you are wrong.

Sarafanov: Yes, yes. I have done my duty by them and I have raised them... *(bitterly)* Now I am free and in my old age I can make the most of my solitude...

Busygin: You will not be alone... If you don't have anything against it I will come to live with you.

There is a pause. Nina raises her head.

Sarafanov: You mean...

Busygin: Yes. If you are left all alone I will come to live with you. That is if you want me to... There is a medical school in this town too.

Sarafanov *(moved)*: My son... You are the only one left... The only one. What would I do without you?

Busygin: Now calm down... I think you need to lie down. You've had too much excitement. Come, rest up and regain your composure...

(Leads Sarafanov to the next room and comes back.)

Nina: You really want to stay?

Busygin: Yes... What else can be done? Do you believe it is possible to leave him all alone? *(comes up to her)* Were you very upset because of the cadet?

Nina: I suppose so. What a demonstration! And all of the family talents flowered.

Busygin: Nobody wanted to upset you.

Nina: But what business is it of yours? Why do you have to stick your nose in? What for? Why did you have to make him look like an idiot?

Busygin: I didn't like him.

Nina: So what? You're not the one who's going to marry him! Why should you care? *(after some speculation)* Well, I grant you he's not the most clever or the most handsome man in the world, but even so – why should you be concerned?

Busygin: Well no, he's not a bad chap... It's not that...

Nina: Then what is it? Tell me!

Busygin: I've fallen in love.

Nina: Whom with?

Busygin: I don't know how to put it... She belongs to somebody else.

Nina: Then win her over. I'm sure you can.

Busygin: Easier said than done.

Nina: What's to stop you?.. Well, say something...

I don't know who she is but I feel *(with surprise)* jealous. Sometimes I'm sorry you're my brother.

Busygin: I'm not your brother... And never was.

Nina *(rising)*: That's a lie... *(backs away from him)* I don't believe you.

Busygin: But it's a fact. I never knew my father and my mother lives in Chelyabinsk. Your father has never been there. I have deceived him.

Nina: What for?

Busygin: It was just something that happened by chance...

Nina: Why did you keep it up so long?

B u s y g i n : Your father accepted me. And then it all began. First him, then you. I was dumbfounded.

N i n a : You . . . you're crazy . . .

B u s y g i n : Perhaps. But I don't want to be your brother any longer.

N i n a : You're . . . a crook. You need to be handed over to the police!

B u s y g i n : It's better to be in a cell than be your brother.

N i n a : You should be ordered out of the house . . . You ought to be thrown down the stairs!

B u s y g i n : Yes? . . But when I was your brother you liked me. A little.

N i n a : Silence, you hopeless man! . . I don't know if anyone ever met an idiot like you.

Sarafanov appears.

S a r a f a n o v : Volodya! It's all clear in my mind now! Its' better to leave this house. It's better to leave it before they carry you out! *(with inspiration)* Son! I have turned it over in my mind . . . We are going to Chernigov!

(Busygin is caught completely off-guard.)

We shall go together! Today! This minute! We're going there now.

N i n a *(laughing)*: You're getting married, I presume?

S a r a f a n o v *(shouts)*: Anything can happen! There's nothing funny about it! *(to Busygin)* I have given thought to the matter. If your mother . . . In other words I want to see her. *(to Nina)* Stop it! *(to Busygin)* Just look at her! There's nothing sacred for that girl. You can see I can hardly remain where I am. I am packing now, this minute, immediately *(goes into the other room, addresses Nina at the door)* I shall take the clarinet and my music. That's all I shall need . . . When does the train leave?

B u s y g i n : I really don't know . . .

S a r a f a n o v : It doesn't matter! I'm packing. Immediately! *Silence.*

N i n a *(suddenly with tenderness)*: Don't daddy. Hush. You shouldn't get so excited . . . *(seats him on a chair)* Sit down and come to your senses.

(They are silent for a few moments.)

S a r a f a n o v *(sits in confusion)*: What's the matter? What happened? . . Volodya? You're hiding something from me.

N i n a : Father, I'm not going anywhere. I'm staying. *(Vasenka appears in the doorway. He looks scared and at the same time triumphant. Everybody turns in his direction. No one speaks). (to Vasenka)* What happened? . . What? . . *(There is a short pause).*

V a s e n k a : I have set them on fire.

B u s y g i n : On fire? Whom?

V a s e n k a : Her and her sweetheart.

Sarafanov: Heaven help us!
Everyone except Vasenka rushes to the window. Sylva appears in the doorway. His face is covered with soot. His clothes are partly burned, especially the trousers. Whiffs of smoke are coming from him. No one speaks.

Sylva: I've had it. And I'm in need of a pair of trousers.

Makarskaya walks in.

Sarafanov *(to Makarskaya)*: What happened? What?

Makarskaya: Can't you see? He threatened to kill me today and this is the result!

Nina: Vasenka – to kill her?

Sarafanov: Is that so?

Makarskaya: Is that so? I didn't believe it either. But there you are – he's gone wild!

Sarafanov *(to Vasenka)*: How could you? How could you?

Makarskaya: It was very simple. The window was open and he set the curtains aflame and then the carpet and then the fire spread all over the room. He wanted to burn the house down.

Sylva *(to Sarafanov)*: I'd like to borrow a pair of slacks.

Sarafanov: Slacks? .. Just a minute... *(goes into the bedroom)*.

Busygin *(comes up to Sylva)*: Well, lover, what have you got to say for yourself?

Sylva: Have you gone mad, old man? What's this you're saying?

Busygin: I'd given you fair warning.

Sylva: So that's how you treat me... And you're still impersonating the brother, I presume?

Busygin: Listen, fella, why don't you get out while the going is good?

Sylva: Get out? In this state?

Busygin: You'll get along. Quite becoming in fact. Now get going. Or do you want me to show you out?

Sarafanov appears with a pair of trousers.

Sylva *(in the doorway)*: Well, thank you, old man, for everything. You turned out to be a real pal... I am leaving. But first I must tell you a few home truths. *(points to Busygin)* He set the house on fire. And he started this merry-go-round. Take care, he's a confirmed criminal. Don't laugh. Well, take care of yourselves. He's full of tricks. And by the way *(to Nina)* he's as much your brother as I am his niece. So bear this in mind before it is too late. *(to Sarafanov)* And you, father, if you believe him to be your son you are way off the mark. And so begging your pardon...

Sarafanov: Get out! Get out of here!

Sylva leaves.

Sarafanov: Scoundrel!

A short pause ensues.

Busygin: But he's right.

Sarafanov: Who's right?

Busygin: I'm not your son.

Sarafanov: What's that? .. What does this mean?

Busygin: I'm not your son. I

tricked you into believing it yesterday.

S a r a f a n o v : Volodya! What's this you are saying?

M a k a r s k a y a : Wait a minute! Wasn't it you looking for a place to spend the night yesterday?

B u s y g i n : Yes, it was. It all happened unexpectedly. And in the morning instead of leaving...

S a r a f a n o v : No, this is impossible... I don't believe it!

B u s y g i n : I hope you can forgive me because I... Well, I'm glad I found myself here.

S a r a f a n o v : So you're not my... So I'm not your... But how could it be? No, I don't believe it! Say that you're my son!.. You are, aren't you, son?

B u s y g i n : No.

S a r a f a n o v : But then who are you? Who?

N i n a : He's a crackpot. A real lunatic, we're only beginners. Even you daddy could learn a few things from him. He's a perfect crackpot.

V a s e n k a : What a mess...

M a k a r s k a y a : You said it.

S a r a f a n o v : I don't believe it! I don't want to believe it!

B u s y g i n : Frankly speaking, I don't believe I'm not your son either *(looks at Nina)* but it's a fact.

S a r a f a n o v : I can't believe it and I don't understand it! And I don't want to understand it! You're – a genuine Sarafanov! You're my son! And my favourite son at that!

N i n a *(to Busygin)*: Didn't I tell you... *(speaks gaily to Sarafanov)* How about me? Or Vasenka? Do you still regard us as your children?

S a r a f a n o v : Nina! You are all my children but he... And after all he's the eldest.

All laugh heartily.

M a k a r s k a y a : What odd people you are.

N i n a *(laughing)*: Aren't we? Almost burnt down a house.

Makarskaya waves her hand in resignation.

S a r a f a n o v : What has happened changes nothing. Volodya, come over here...

Busygin comes up. He, Nina, Vasenka, Sarafanov all form a close circle. Makarskaya stands aside.

S a r a f a n o v : Whatever may happen I regard you as my own son. *(speaks to all three of them)* You are all children of mine because I love you. I may be good, I may be bad but I love you all dearly and that's what really counts...

M a k a r s k a y a : Excuse me, please. *(to Busygin)* But I would like to ask about your parents.

B u s y g i n : I have a mother in Chelyabinsk.

N i n a : Does she live alone? *(laughs)* Daddy, doesn't that sound promising?

B u s y g i n : She lives with my elder brother.

Nina: And you? How come you're here?
Busygin: I study here.
Sarafanov: And where do you live?
Busygin: At the student hostel.
Sarafanov: At the hostel... But that's a long way off and it's not homey. And generally I can't stand hostels, I mean... If you agree... Well, in a word, why don't you come to live here with us?
Busygin: No, I couldn't...
Sarafanov: I offer this from the bottom of my heart... Nina! Why are you silent? Invite him, talk him into it.
Nina *(capriciously)*: Why should I? Why should he live here? I don't want him to.
Busygin: I'll be coming over to see you. I'll visit here every day. You'll get sick and tired of me.
Sarafanov: Volodya! I'm all for your moving in to stay!
Busygin: I'll come over tomorrow.
Nina: When?
Busygin: At seven... At six o'clock... And by the way, what time is it now?
Nina: Half past eleven.
Busygin: Congratulate me. I've missed the last train again.
CURTAIN

Translated by Maya GORDEYEVA



CHESS

by Isaac Linder, Cand. Sc. (Hist.)

There have been many chess enthusiasts among musicians in the past and there are many at present. For music and chess have much in common: music, among other things, is a combination of sounds, and chess – a combination of moves.

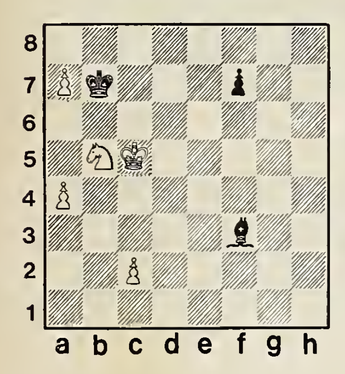
François André Philidor (1726-1795), the author of *Chess Analysis*, a universally revered book, was an outstanding composer. Ferencz Erkel (1810-1893), the Hungarian conductor and composer, was the founder of a chess club in Budapest. There were especially many chess players among the Russian composers, including Nikolai Rimsky-Korsakov, Anatoli Lyadov, Sergei Taneyev, Alexander Skriabin and Dmitri Shostakovich. All of them noted that chess helped them in composing music and music helped in playing chess.

Among the friends of the composer Sergei Prokofyev were world chess champions José Raoul Capablanca, Emmanuel Lasker and Mikhail Botvinnik, with whom he played many times when Botvinnik gave simultaneous-play exhibitions.

David Oistrakh, the world famous violinist, was also a great chess enthusiast. He and Prokofyev were close friends but keen rivals over the chessboard. Once they decided to "settle accounts" in an official match which was held in 1937 in Moscow. Most of the games were truly hard-fought.

The match was won by David Oistrakh. We present the end part of one of the more spectacular games:

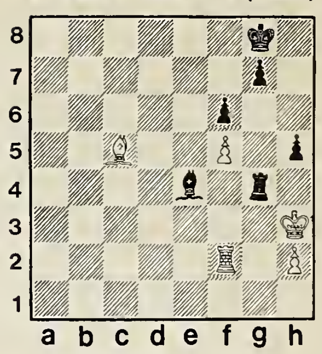
PROKOFYEV (White) – OISTRAKH (Black)



56. c3/White has gained considerable advantage. At this point he should have consolidated his gains by sacrificing the pawn on a7: 56. a5 f5; 57. a8(Q)+ K:a8; 58. Kb6. But now Black can put up a stubborn defence and achieve a draw/. 56. . . . f6: 57. Kd6 Bd1; 58. a5 Be2 59. Ktd4 Bf1; 60. Ktc6 f5; 61. Ke5 Bd3; 62. Kd4 Be4; 63. a6+ Ka8; 64. Ktb4 K:a7; 65. c4 Kb6; 66. c5+ Ka7; 67. Ke5 Kb8; 68. Ktd5 Bd3; 69. Ktb4 Be4; 70. c6 Kc7; 71. a7 B:c6; 72. Kt:c6 Kb7. The game was abandoned as drawn.

Sometimes musicians play as a team. The chess teams of the Bolshoi Theatre and the Moscow Conservatoire are especially fond of such matches. Here is the end part of the game the Bolshoi team played against a team of Arctic research workers 10,000 kilometres away in Port Pevek on the East-Siberian Sea coast of the Chukot peninsula. The game was played over the radio.

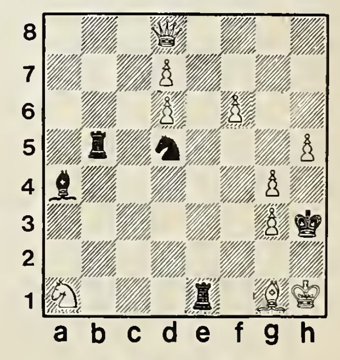
PORT PEVEK (White) – BOLSHOI THEATRE (Black)



41. . . . Rg5; 42. Be3 B:f5+; 43. Kh4 Rg4+; 44. Kh3/if White played 44. K:h5, there would come 44. . . . g6+; 45. Kh6 Rh4X/ 44. . . . Be6; 45. Bd2/if White played 45. Re2, there would come the following spectacular ending: 45. . . . h4(!); 46. Bf4 Rg3+(!); 47. K:h4 Rh3X/. 45. . . . RG1+; 46. Kh4 g5+; White resigned in view of 47. K:h5 Kg7(!), resulting in a checkmate.

Solve a Problem

The Leningrad pianist Vitali Chekhover (1908-1965) was also a chess master. His chess compositions are artistic and their solution is difficult. In the problem below the goal is achieved by three queening pawns which become three different pieces.



White leads to win

* * *

Solution of the problem in the March issue:

1. Bc3(!) Kd3; 2. Bf5X.
1. . . . Kd5; 2. Bf3X;
1. . . . Kf4; 2. Rc4X.

In Our Next Issue

SCIENTISTS SOUND A WARNING. In the past 40 years some 50,000 nuclear warheads have been accumulated in the arsenals of our planet. Their total explosive power is 5,000 times greater than that of all the explosive matter ever used in all wars in history. So what will happen in the event of global nuclear war? Basing themselves on persuasive calculations, experts declare: a fatal catastrophe threatens mankind.

BACK TO THE LAND. The axiom that city life is more attractive to people than living in the countryside seems indisputable. And yet in recent times indications have appeared that once again people are being drawn to the land. In Lithuania, one of the Union republics, this phenomenon is known as the "green wave."

"IT IS A CRIME TO STAND ASIDE FROM POLITICS." The words belong to Yulian Semyonov, author of the bestseller "Seventeen Moments of Spring" – a thriller about a Soviet intelligence agent in the den of the leaders of the fascist Reich. A TV serial based on the book has been shown with success in many countries. SPUTNIK presents an interview with Yulian Semyonov and excerpts from his latest novel "An Order to Survive" – a continuation of the tale.

LET'S BE LATE FOR WORK! Sounds odd? But do not hasten with conclusions, first hear about the experience of one large Soviet factory.

DON'T RUSH TO A "SILVER DIVORCE." Sociologists maintain that the most difficult period in a man's life comes after the age of 50. The psychological crisis leads to a rushing about as he strives to prove to himself and others that he is still young. More often than not, this "pursuit of youth" winds up in the offices of doctors and lawyers.



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